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ABSTRACT

The purpose of this study was to develop land-utilization options for the present holdings of the Berrien Springs Public Schools. In order to base these proposed options on facts and observable evidence, substudies of educational goals, enrollment projections, present school site, and the educational program were conducted. On the basis of the data obtained in these substudies, land-utilization options in three areas were developed--the biosphere, physical education, and general. The recommended biosphere is to be conducive to instructional use and to the encouragement of native wildlife and would contain an arboretum, a pond, trees, and garden space. Various options concerning outdoor physical education facilities are described and illustrated. General land-utilization options include a drainage system to remove standing water from school grounds, landscaping, installation of curbs or other restraining barriers around play area, and facilities for special education. (MLF)

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Project P-21

LAND-UTILIZATION OPTIONS

FOR THE

BERRIEN SPRINGS PUBLIC SCHOOLS

by

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April 1975

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FOREWORD

The Center for Studies and Services in Education at Andrews University was approached by Jon N. Schuster, Assistant Superintendent of the Berrien Springs Public Schools, in the fall of 1974 about the possibility of conducting a land-utilization study of the school system. The CSSE drew up a proposal which was approved by the School Board of the Berrien Springs Public School System on December 12, 1974.

Many others besides those listed as authors contributed to this study. The CSSE would like to thank Mr. Edward Streeter for his assistance in the research design, Dr. Jerry Snow for his help in the Biosphere chapter, Mrs. Millie Kurtz and Mrs. Joyce Jones for their editorial assistance, Mr. John Cox for his aerial photography, Mrs. Anna Lee for verifying the factual data, and Mrs. Corinne Zehm for her secretarial work.

The study group would also like to thank the administration of Andrews University, especially Dr. Richard Hammill and Dr. J. G. Smoot, for their support and encouragement of this study.

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CHAPTER I

INTRODUCTION

The Berrien Springs Pubiic Schools have for some time held several acres of land in reserve for future development. Recently, a middle school was constructed on part of the property. Since no plan existed for the optimum usage of the remaining land, the School Board requested this development of land-utilization options.

The purpose of the study was to develop land-utilization options for the Berrien Springs Public Schools. The research was concerned mainly with the present land holdings. A data-sheet describing the Berrien Springs Public Schools is given in Appendix A.

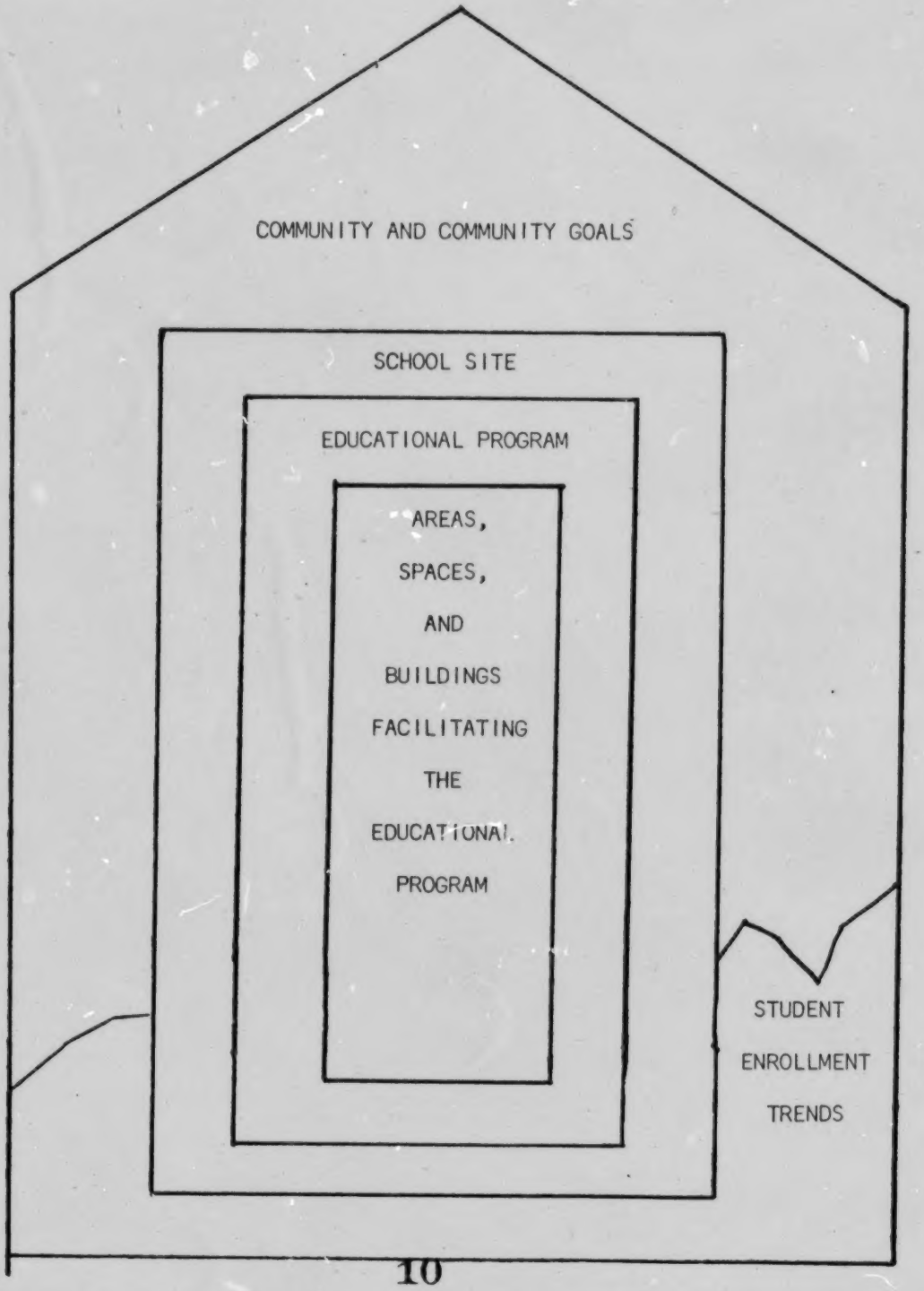
For the purpose of this study, the term land-utilization was defined as the custom fitting of a program to limited-size conditions. The results of the study will be given in the form of various options or alternatives in the belief that there is more than one way to custom fit programs and that the discretionary decision should be made by the community representatives elected for these purposes, namely, the School Board.

The study consists, in part, of four sub-studies: (1) educational goals, (2) enrollment projections, (3) educational curricula, and (4) the school site. These four sub-studies were carefully analyzed and served as a data base for the proposed land-utilization options.

A description of each sub-study is presented in the chapters concerning each of the four areas.

Figure I-1 shows the inter-relationship of the four sub-studies. The state and community at large determines the overall educational goals to be achieved. These goals form the charter by which the School Board and the Central Administration can formulate their policies and programs. All these programs are to benefit the community, mainly through its student population. A careful analysis of past enrollments and projected enrollment trends provides the quantitative data for the next steps in the study. In a similar way, an examination of the school site and the educational program provides background data, which forms the basis for the development of land-utilization options. The central core of the model and the outcome of the study consists of the areas, spaces, and buildings that are proposed to facilitate the educational program in the years ahead.

Figure 1-1 The Land-Utilization Model



CHAPTER II

EDUCATIONAL GOALS

In order to plan more accurately for the future needs and desires of the various publics comprising the Berrien Springs Public School System, a goal analysis was conducted by the Center for Studies and Services in Education. An accurate knowledge of the goals of those whom the school system serves will indicate preferred alternatives and aid the decision-making process.

DEVELOPMENT OF THE QUESTIONNAIRE

A review of the relevant literature suggested potential survey questions within common educational goal areas covering cognitive, affective, vocational, and health-recreational aspects. Discussion with school administrators, study of the North-Central Association Report (Warfield, 1974) evaluating the school, and study of the elementary curriculum outline (B.S.P.S., 1974) suggested additional potential questions of local interest supplemental to the common educational goals.

A sixty-five question survey was generated with questions covering the seventeen common educational goals and specific local interests. (See Appendix D) The questionnaire was divided into four sections. Section I contained population identification questions. In Section II, respondents were asked to choose eight of the seventeen goals they thought were most important for their schools. Section III used the

same list of goals and asked the respondents to choose the eight goals they thought the Berrien Springs Public Schools were attaining best. Sections II and III covered the common educational goals referred to earlier and in Appendix D. Section IV listed several statements of more specific nature than Section II or III and asked the respondents to choose "Agree," "Disagree," or "No Opinion". In addition to questions dealing with goal areas, Section IV dealt with community utilization of school property and with land and building development.

PROCEDURE

Three major population divisions appear: student, staff, and community. Students in grades six through twelve were given class time to fill out the questionnaire. There were 864 student surveys returned. Teachers, administrators, and auxiliary staff received surveys from their respective main offices. Ninety-nine surveys were returned. Another 4284 surveys were mailed to the postal patrons in the Berrien Springs School District. Respondents were asked to return their surveys to the schools or to one of three drop-boxes in selected Berrien Springs' stores. Only 130 surveys were returned by community members.

The three population divisions represent separate, but not necessarily unequal, views of the educational process. The students' interests and goals should be considered in educational planning. The teachers, who are professionally trained to know the needs in the educational process, would be responsible for any necessary implementation. And the community, which is asked to pay for education, should

have the right to make known its desires and goals. The responses of the three groups were analyzed separately and then were averaged together in analyzing the total, giving each population group a one-third voice in the total. This procedure for finding the average response of the total population will henceforth be referred to as the total average.

ANALYSIS OF GOAL STATEMENTS

The same list of goal statements (See Appendix D) was used in Sections II and III of the questionnaire. The responses were analyzed to find an average for each of the three major population divisions. Response percentages for all questions in Sections II and III are listed in Appendix E.

Individual Goal Statements

In descending order of frequency of choice, the eight most frequently chosen goals for the students sampled were: to be ready for jobs after high school (71.9%); to know basic information about subject matter (69.7%); to be ready to enter college (65.3%); to understand and examine personal capacities, interests, and goals (60.7%); to develop persistence and self-discipline (53.8%); to develop positive attitudes about human differences (52.2%); to appreciate, protect, and improve our local natural environment (46.9%); and to develop a desire to maintain a good fitness level (45.2%).

The students indicated a high degree of congruence between their most frequently chosen desired goals and those the school is attaining.

The most desired goal, to be ready for jobs after high school, was seen as the second best-attained goal, chosen by 52.7% of the students. The second-ranked desired goal, basic information, was ranked first by the students (78.5%). The third desired goal, college preparedness, was ranked fourth (48.8%). The fourth desired goal, examining personal capacities, was ranked sixth (45.5%) in attainment. The fifth desired goal, developing persistence and self-discipline, was ranked eighth (39.0%) in attainment. Developing a desire to maintain a good fitness level was the eighth most desired goal and was ranked third in attainment (48.9%), indicating that many students feel this goal is well-attained. The goals chosen sixth, developing positive attitudes about human differences, and seventh, appreciating the environment, were not among the eight best-attained goals as seen by the students. Only 35.2% and 27.1% respectively saw these goals being attained, which seems to indicate that developing attitudes and appreciating the environment are areas which need more emphasis. Developing skills in the arts was not chosen as one of the eight most desired goals by the students, but was seen being attained by 46.1% of the students, or ranked fifth in the eight goals best attained by the schools.

The results indicate that the students feel their major goals are being met by the Berrien Springs School, with perhaps a few falling below the desired level. They seem to indicate a desire for more emphasis on the environment and on developing personal traits, as noted above.

Table II-1 lists, in descending order, the eight most desired goals most frequently chosen by students. Following the goal is the

Table II-1

GOALS AS RANKED BY STUDENTS

Desired Rank		Attained Rank
1.	Be ready for jobs after high school	2
2.	Know basic information in subject matter areas	1
3.	Be ready to enter college	4
4.	Understand and examine their own interests, capacities, and goals	6
5.	Develop traits of persistence and self-discipline	8
6.	Develop positive, constructive attitudes about human differences	11
7.	Appreciate, protect, and improve our local natural environment	15
8.	Develop a desire to maintain a good fitness level	3

rank order for frequency of being chosen among the eight most attained goals.

The staff appeared to agree quite strongly on desired goals, with the top six ranked goals being chosen by more than 70% of the population. The eight goals, listed in descending order, most frequently chosen by the staff were that the school should prepare the students to: understand and examine their own capacities, interests, and goals (84.8%); develop traits of persistence and self-discipline (81.8%); appreciate moral, social, and ethical values (78.8%); know basic information in subject matter areas (73.7%); develop basic skills in communication, computation, and inquiry (73.7%); develop positive attitudes about human differences (70.7%); be ready for jobs after high school (47.5%); and to understand the needs and responsibilities of family life (46.5%).

There was much more variance between the staff's desired and attained ranks than the students'. The most frequently chosen desired goal, to understand capacities, interests, and goals, was only ranked fifth in attainment with 49.5% choosing it as an attained goal. The second and third ranked desired goals, development of persistence and self-discipline (27.3%), and appreciation of moral, social, and ethical values (34.3%), did not even rank among the top eight goals the schools are attaining. The difference in rank seems to indicate a strong desire for more attention on personal goals. Two desired goals tied in rank at 4.5 (73.7%). These medium level rankings for knowing basic subject information and for developing skills in communication, computation, and inquiry were contrasted by high attainment rankings of one (89.9%) and three (65.6%), respectively. The 89.9% attainment frequency was extraordinarily high, and shows the staff feels the schools do very well in teaching the subject matter. Being ready for jobs after high school was the seventh most frequently-desired goal (47.5%) by the staff and was ranked fourth in attainment (50.5%). This seems to indicate the schools are meeting this goal to the staff's satisfaction. Four of the top eight desired goals were not ranked in the top eight attained goals, indicating a possible desire for greater emphasis. The sixth most frequently desired goal (70.7%), to develop positive, constructive attitudes about human differences, was seen attained by only 36.4% of the staff. The eighth ranked desired goal (46.5%), understanding needs and responsibility in family life, was chosen as an attained goal by only 28.3% of the staff.

The staff results indicate an underachievement in the highly desired goals of self-examination, personal traits and values, while achieving highly on the less-frequently chosen goals of transmitting subject information and educational skills. The four desired goals that were not among the eight attained goals may indicate areas the staff wants emphasized.

Table II-2 lists in descending order the eight goals most frequently chosen by the staff to be among the most important. Following each goal is the rank order for frequency of being chosen among the eight most attained goals.

Table II-2

GOALS AS RANKED BY STAFF

Desired Rank		Attained Rank
1.	Understand and examine their own capacities, interests, and goals	5
2.	Develop traits of persistence and self-discipline	8
3.	Appreciate moral, social, and ethical values	10
4.5	Know basic information in subject matter areas	1
4.5	Develop basic skills in communication, computation, and inquiry	3
6.	Develop positive, constructive attitudes about human differences	9
7.	Be ready for jobs after high school	4
8.	Understand the needs and responsibilities of family life	12

In descending order, the eight goals most frequently chosen by the responding community members were that the school should prepare the student to: know basic information in subject areas (82.3%); understand and examine their own capacities, interests, and goals (72.3%); appreciate moral, social, and ethical values (71.5%); develop traits of persistence and self-discipline (70.0%); develop basic skills in communication, computation, and inquiry (67.7%); develop positive, constructive attitudes about human differences (60.8%); understand the needs and responsibilities of family life (55.4%); be ready to enter college (42.3%).

As with the staff ranking, only four of the top eight desired goals are also ranked with the eight most frequently chosen attained goals. Knowing basic information is highest ranked on both desired (82.3%) and attained (62.3%) indicating an important goal being satisfactorily attained. The second-ranked goal was only ranked 7.5 (39.2%) in attainment, indicating a community desire for more emphasis on students examining their own capacities, interests, and goals. The fifth ranked goal, developing basic educational skills, was fifth (41.5%) in attainment level, indicating an adequate achievement level for the school in this area. Another academic question, preparation for college was ranked eighth in desired frequency and second in attained frequency (48.5%), indicating a desired area thoroughly meeting expectations. Four of the top eight desired goals had low attainment levels. Appreciating values was third in desired frequency rank with 71.5%, but was chosen among the top eight attained goals by only 19.2% of the community respondents. Developing persistence and self-discipline was ranked fourth with 70.0%, but was seen attained by only 22.3%. Developing constructive attitudes

about human differences was a sixth-rank (60.8%) desired goal, but was seen in the top eight attained goals by 29.2%. The seventh-ranked (53.4%) goal, understanding the needs of family life, was chosen as being attained by 14.6% of the community. The great differences indicate these areas are not being satisfactorily achieved.

Four goals chosen in the eight best attained, being ready for jobs after high school (ranked fourth with 42.3%), developing a good fitness level (ranked third with 44.6%), readiness for technical training (ranked sixth with 40.0%), and developing skills in the arts (ranked 7.5 with 39.2%), were not among the eight most frequently desired goals. These may indicate some desire for revalued emphasis in these areas, especially concerning developing a good fitness level where the difference between community members choosing it as an attained goal (44.6%) and those choosing it in the top eight desired goals (23.8%) was 20.8%.

These results indicate that the community feels the goal of subject matter learning is being attained more than other levels. Areas of possibly more emphasis are personal values and traits, examining personal interests, developing attitudes about human differences and understanding the needs of family life.

Table II-3 lists in descending order the eight goals most frequently chosen by the community to be among the eight most important goals. Following each goal is the rank-order for frequency of being chosen among the eight most attained goals.

Summing the tallies for each question to arrive at total sample data would give disproportionate weight to the student view due to their larger numbers. By averaging the percentage of tallies for each group,

Table II-3

GOALS AS RANKED BY COMMUNITY

Desired Rank		Attained Rank
1.	Know basic information in subject matter areas	1
2.	Understand and examine their own capacities, interests, and goals	7.5
3.	Appreciate moral, social, and ethical values	13
4.	Develop traits of persistence and self-discipline	12
5.	Develop basic skills in communication, computation, and inquiry	5
6.	Develop positive, constructive attitudes about human differences	10
7.	Understand the needs and responsibilities of family life	16
8.	Be ready to enter college	2

each will influence the total picture equally.

The eight most chosen desired goals, listed in descending order according to the total average, are for the school to prepare students to: know basic information in subject matter areas (75.2%); understand and examine his own interests, capacities, and goals (72.6%); develop traits of persistence and self-discipline (68.5%); appreciate moral, social, and ethical values (64.1%); develop constructive attitudes toward human differences (61.2%); develop basic skills in communication, computation, and inquiry (59.6%); be ready for jobs after high school (53.4%); and understand the needs of family life (48.3%).

The most frequently chosen desired goal was also the most frequently chosen attained goal. Knowing basic information is highly desired and is attained. The second ranked desired goal, examing their own capacities,

was sixth in attainment. The difference of 27.9 percentage points indicates a goal needing more emphasis.

The desired goals ranking third, fourth, fifth, and eighth among the top eight did not rank in the eight frequently chosen attained goals. The third-ranked goal, developing persistence and self-discipline, was chosen in the eight most desired by 68.5%, but as being attained by only 29.5%. The fourth ranked goal, appreciating values, was chosen in the most desired group by 64.1%, but in the attained group by only 29.2%. Developing positive attitudes about human differences ranks fifth and was chosen as one of the eight most desired goals by 61.2%, but only 33.6% of those responding chose it as one of the eight most attained. Understanding family life ranked eighth. It was chosen as desired by 48.3% and as attained by only 25%. The total average indicates that these four goals fall significantly below population-desired levels.

The population averages indicate that there are areas where the school is meeting or exceeding the desired goal attainment. Readiness to enter college, desiring a good fitness level, developing skills in the arts and readiness for technical training were not among the eight most desired goals, but were ranked second, fifth, seventh, and eighth among the attained goals.

The results of averaging the percentages from the three population divisions indicate the schools are fulfilling goals of basic subject information comprehension, college preparedness, fitness, and art appreciation,and readiness for technical training. Goals desired more highly than attained include developing self-discipline, appreciating

values, developing positive attitudes toward differences, and understanding family responsibilities.

Table II-4 lists in descending order the eight goals most frequently chosen by the average of all three populations to be among the eight most desired goals. Following each goal is the rank-order for frequency of being chosen among the eight most attained goals.

Table II-4

GOALS AS RANKED IN THREE-GROUP AVERAGED

Desired Rank		Attained Rank
1.	Know basic information in subject matter areas	1
2.	Understand and examine their own capacities, interests, and goals	6
3.	Develop traits of persistence and self-discipline	11
4.	Appreciate moral, social, and ethical values	12
5.	Develop positive, constructive attitudes about human differences	10
6.	Develop basic skills in communication, computation, and inquiry	3
7.	Be ready for jobs after high school	4
8.	Understand the needs and responsibilities of family life	14

Goal Areas

The goal statements in Sections II and III of the questionnaire represented seven basic educational goal areas. The general areas were cognitive, affective-personal, affective-interpersonal, vocational, health-recreational, the arts, and the biosphere. Appendix F indicates which questions comprise the respective areas. The frequencies with which the goals

within a certain area were chosen to be among the eight most desired were added to obtain an area frequency. Percentages were obtained for each of the three population divisions, as well as an average for the total populations, and are listed in Appendix E.

The cognitive area was chosen most frequently as attained by the populations and was most frequently desired by all but the staff. There is less than a single percentage point separating the total average desired and attained choices, which seems to indicate the school is doing very well in satisfying one of the major goals of student, staff, and community.

The affective-personal area as indicated in the total average was chosen most frequently to be among the most desired goals. It ranked first with the staff and second with the community. A large gap exists between the desired level and attained level. A difference of more than 30% between the desired and attained total average percentages reveals the affective-personal area to be unsatisfactorily attained to most of those choosing it as an desired goal.

The affective-interpersonal area is closely related to the affective-personal area, and the results are similar. Each of the three populations chose it less frequently as an attained goal than as a desired goal. The 25.4% separating the desired and attained levels show many feel this desired goal has not been realized.

The total average reveals the vocational area to be attained at the level it is desired. The students chose it as a very important desired goal, while the community and staff chose it more as being an attained goal rather than an important desired goal. Less than 2%

separates the total average desired and attained levels.

The margin of separation for desired and attained levels of the health-recreational area is also less than 3%. It was chosen less frequently by all populations and is seen as being attained by approximately the same number of people who value it.

More respondents in all three populations chose the arts area as being attained than chose it as a desired goal. The total average reveals 9.5% more of the population saw this area among the most attained than saw it among the most desired. The schools seem to be presenting this area at or beyond the desired level.

All populations chose the biosphere as a desired area more frequently than they did as an attained area. A 20.7% spread exists between the desired choices and attained choices. More attention in this area is needed to bring its attainment level up to the obviously desired level.

Conclusions

Caution must be used when interpreting these results. It is important to remember that percentage figures represent only the frequency of inclusion in a group of eight goals, not a ranking of goals as most important.

The important goals of the students are generally being met, though some below their desired level. There seems to be an indication of desire for more emphasis on the environment and affective goals.

The staff emphasized the importance of the affective goals. Frequently desired, but not frequently attained goals, included appreciating values,

developing self-discipline, understanding human differences, and understanding the responsibilities of family life.

The community also indicated a desire for more emphasis on the affective goals. Their frequently chosen desired goal of knowing subject matter was frequently seen as attained. They saw the school doing its best job in the area most highly chosen.

To summarize, the cognitive, vocational, health-recreational, and arts areas were observed as attained at or near the level they were desired. Three areas did emerge as needing more emphasis, or that is, they were judged attained significantly less than desired. The areas calling for more emphasis were the biosphere, affective-personal, and affective-interpersonal.

DESIRED USE OF SCHOOL PROPERTY

Section IV focused primarily on use of the school property, and included questions on outdoor recreation, clubs, and the arts. The respondents were asked to respond to the statements on choosing "Agree", "Disagree", or "No Opinion". On only five of the questions did the "No Opinion" choice exceed 40%, and at no time did it exceed 50%. The percentages for each question, computed for the three populations and the total average, are listed in Appendix E, questions 39-64. The questions covered in this section are listed in the sample survey in Appendix D.

The total average reflected the ambivalence of the population toward expanded community use of school property. Student and community respondents felt it could be used more, while the staff generally indicated

school land was used enough for community recreation. The desirability of an outdoor environmental center was unanimously agreed to by all three groups. A smaller percentage agreed there should be a community-school park. The staff indicated there was too much emphasis on varsity sports, but the students strongly disputed this. The community responses indicated no clear-cut choice, so the total average favors the student view. An overwhelming majority in all groups indicated the school buildings should be beautiful as well as functional.

The majority of the staff disagreed with students and community, who felt the school did enough for the handicapped. Many staff and community respondents indicated they would attend an expanded evening adult-education program. The three groups agreed on the desirability of an area vocational-technical center, but not on the advisability of making a vocational choice in high school. Students and staff showed a desire to develop more land for recreational use, but community members were divided. All three groups expressed a need for an auditorium for school-community use.

The population divisions strongly agreed on the need to place more emphasis on job skills, the environment, outdoor recreation, and nature study. Agreement, although less strong, was also indicated for emphasizing biology, agriculture, gardening, dramatics, art, music, and intramurals. The students felt more emphasis should be placed on athletics, but both the community and the staff disagreed. A thin majority of the students desired a camping emphasis, but the staff and community were divided on it.

Open-ended Responses

Question sixty-five asked the respondents to list any facilities the school system lacks and to suggest specific land-use ideas. There were 245 of the total population who requested a swimming pool. Other frequent choices, ranging from 50 to 99 repetitions, were new or improved tennis courts, a large auditorium, a nature study area, and a recreation center with games and activities for after-school use. Many students indicated a desire for a student lounge or smoking lounge to eliminate an observed problem in the bathrooms. Other ideas listed between 20 and 35 times were (in descending order of frequency) an ice or roller rink, a second gymnasium, an all-weather track, baseball facilities, vocational facilities, and fine arts facilities. Several additional possibilities were included by the students, including an indoor riding paddock and animal barn, a drag-strip, ski hill, minature golf, planetarium, bowling alley, motorcycle track, rifle range, golf-course, sauna, and boxing area.

Questions 21 and 38 were also open-ended questions, but were not frequently utilized. No pattern was developed, nor were common desires expressed in the answers filled in for these questions.

Conclusions

Section IV revealed a desire to emphasize vocational skills and an interest in the construction of an area vocational center. A need for more emphasis on the environment was expressed. There was some feeling for expanded community use of school facilities and a jointly-used auditorium and swimming pool.

SUMMARY

A sixty-five item questionnaire covering common educational goal areas and specific land-use questions was constructed and distributed to students, staff, and community members in the Berrien Springs Public School District. The results indicated the schools seem to be doing well at achieving the academic goals. More emphasis seemed to be desired in the affective areas, including students' developing self-discipline, personal values, healthy attitudes toward human differences, and family life. More emphasis also seemed desired for the environment, or biosphere, and vocational skills. Expanded community utilization of school property seemed desired, with possible support being indicated for an auditorium and a swimming pool.

CHAPTER III

ENROLLMENT PROJECTIONS

If the educational needs of the constituents of a school district are to be adequately met, then those responsible for conducting the district's educational programs must be involved in an ongoing program of short and long-range planning. A major aspect contingent to much of this planning is an understanding of past and present enrollment patterns, and reliable projections for future enrollment patterns.

A picture of the past, current, and future enrollment patterns for the Berrien Springs Public Schools will be presented in this chapter. The more specific focus of the chapter, however, will be upon a projected future enrollment pattern. Utilizing past and current data, together with the projection techniques indicated to be the most reliable, a pupil enrollment projection for the Berrien Springs Public Schools will be provided. This projection is vital and necessary to the planning considerations of this land-utilization options study.

DEFINITION OF TERMS

Berrien Springs Public School District: The area of the Berrien Springs Public School District includes almost all of Oronoko Township, all of Berrien Springs Village, a small portion (approximately 1/6) of Royalton Township, and a major portion (approximately 5/8) of Berrien Township. This area is closely equivalent to the postal areas served

by Berrien Springs (Zip code 49103 and 49104), together with Berrien Center (Zip code 49102). The Berrien Springs Michigan Bell Telephone Exchange serves approximately the same area.

Population: The total population for the civic areas of Oronoko Township, Berrien Springs Village, and Berrien Township (less part of Eau Claire) are taken to represent the population of the Berrien Springs Public School District.

Households: A count of households for the Berrien Springs Public School District area represents the number of single family dwelling units as represented by the Berrien Springs Michigan Bell Telephone Exchange. The area served by this exchange approximates the area of the school district.

PUPIL ENROLLMENT PROJECTION METHODOLOGIES

The art of pupil enrollment projection is in a developing state. Educators have modified the techniques used by the United States Census Bureau with limited success. The most widely used projection formula currently being employed is the "cohort-survival" or "grade-cohort" method (Webster, 1969, p. 28). This method is based upon an examination of the relationships of grade to grade enrollments throughout the school.

In an effort to determine which projection techniques might prove to be better than others, Webster (1969, 1970, 1971) conducted an extensive study where seventeen (17) separate and distinct ratio and regression methodologies were compared. Seventeen projections were made for each of the twenty-five (25) Michigan school districts in the sample,

for the years 1965 and 1968. These projections were based on data which was available prior to 1960. The actual enrollments for the years 1965 and 1968 were used as the criterion against which to judge the relative reliability of the various projection methodologies.

The twenty-five randomly selected Michigan school districts were classified into five strata, based on growth variables: (1) percentage of population increase for the decade 1950 through 1960, and (2) percentage of household increase for the decade 1950 through 1960. These five strata included the following: (A) "Exploding Communities", (B) "Rapidly Growing Communities", (C) "Older But Still Growing Communities", (D) "Stable, Well-Established Communities", and (E) "Declining Communities". The degree of success that a given projection methodology enjoyed relative to the five strata was also indicated.

The results of this extensive study by Webster indicated that the projection methodology "Transition Analysis (Regression)" yielded the best estimates for the strata A, B, C, and E. For stratum D, this projection methodology was considered to be adequate, while a "Time Analysis I (Regression)" yielded the best estimates for strata D (Webster 1969, p. 116).

The "Cohort-Survival Ratio" method yielded only adequate results for strata A, C, and E, and inadequate results for strata B and D. The "Grade Retention Ratio" method yielded inadequate results for all strata.

With the exception of a few situations where adequate results were indicated, the remaining projection methodologies were considered to be inadequate for all district strata.

The general consensus of this study by Webster therefore indicates that, generally, the most reliable projection technique from among the seventeen methodologies studied would be the "Transition Analysis (Regression)".

SELECTION OF PROJECTION METHODOLOGY

The first step in determining what projection methodology be used for this study was to identify the growth stratum of the Berrien Springs Public School District area. The two factors necessary for this determination are percentages of population and of household growth over a ten year period. Data collected regarding population is presented in Table III-1. Data collected regarding households is presented in Table III-2.

It will be noted that the percentage of population increase per ten year period from 1940 to 1970 has averaged a little over 30 percent. The percentage of household increase for the decade 1960 through 1970 was just over 55 percent, while the increase for the decade 1965 through 1975 was just over 35 percent.

Webster (1969) has defined stratum C, an "Older But Still Growing" community type, as one where an increase of from 10 percent to 50 percent in both the population and household factors takes place over a ten year period. It will be observed that the Berrien Springs Public School District area falls on the high side of this stratum category; almost moving into the B stratum, which Webster defines as a "Rapid Growing Community".

Table III-1

POPULATION OF THE BERRIEN SPRINGS

PUBLIC SCHOOL DISTRICT AREA

Civil Area	1930*	1940*	1950*	1960**	1970**
Oronoko Township	1,868	1,933	2,976	4,444	6,531
Berrien Springs	1,413	1,510	1,761	1,953	1,951
Berrien Township (Less part Eau Claire)	1,632	1,898	2,286	2,879	3,626
TOTAL	4,913	5,341	7,023	9,276	12,108
Change	-	428	1,682	2,253	2,832
Percentage Change		8.71	31.49	32.08	30.53

*SOURCE: U. S. Census of Population, 1950.
U. S. Department of Commerce

**SOURCE: U. S. Census of Population, 1970.
U. S. Department of Commerce

Table III-2

HOUSEHOLDS OF THE BERRIEN SPRINGS

PUBLIC SCHOOL DISTRICT AREA

Year	1957	1960	1965	1970	1975
Households	1,620	1,737	2,256	2,700	3,050
Households	1,620		2,256		3,050
Change	-		636		795
Percentage Change			39.26		35.20
Households		1,737		2,700	
Change		-		963	
Percentage Change				55.44	

NOTE: Unlisted phones equal approximately 6.50 percent of total listings.

Business phones equal approximately 6.00 percent of total listings.

SOURCE: Michigan Bell Telephone
Mr. Herb Cox
Lansing, Michigan

Michigan Bell Telephone
Mr. Mark Tirewieier
Benton Harbor, Michigan

In Webster's study, the transition analysis (regression) projection methodology was identified as being the most accurate for school districts in either the B or C stratum, therefore this methodology was selected to provide the pupil enrollment projections for this study. Two kinds of data are required for this projection methodology: (1) school district live births per year, and (2) pupil enrollment by grade per year.

LIVE BIRTHS - 1958 THROUGH 1974

Table III-3 presents the live births for the years 1958 through 1974 for the area which approximates the Berrien Springs Public School District. A ready source for this data was not available. The Berrien Springs Public School District central office supplied school census figures for the years 1960 through 1968. The statistical department of the Michigan State Department of Public Health provided live birth data for the years 1969 through 1974. There appeared to be discrepancies in this data so a preliminary count of live births was obtained from the records in the Berrien County Clerk's office. These discrepancies were confirmed. A more reliable and consistent live birth rate was required.

The area served by the Berrien Springs (Zip Code 49103 and 49104) and Berrien Center (Zip Code 49102) Postal Service was compared with the area of the Berrien Springs Public School District. From this comparison, it was determined that, with the exception of minor variations which were considered to be of insignificant importance to this study, these Postal Service areas were essentially the same as that of the Berrien Springs Public School District. This then provided for a

Table III-3

LIVE BIRTHS FOR THE BERRIEN SPRINGS

PUBLIC SCHOOL DISTRICT AREA

Year	Live Births
1958	199
1959	205
1960	215
1961	190
1962	186
1963	202
1964	183
1965	155
1966	173
1967	162
1968	180
1969	190
1970	204
1971	189
1972	174
1973	176
1974	175

SOURCE: Actual count from live birth records in the Berrien County Clerk's office, St. Joseph, Michigan.
Count made by Ralph M. Coupland.
Count based upon the home address given for the mother.

reasonably reliable and consistent method for determining the number of live births for the school district area by making a count of birth certificates on the basis of the home address of the child's mother. This was done from the actual birth certificate files on record in the Berrien County Clerk's office. All mothers who were listed as residing in Berrien Springs, Oronoko Township, Berrien Center, and Berrien Township were included in this count. Royalton Township, Eau Claire, Niles, and Baroda were not included.

SCHOOL ENROLLMENTS

Pupil enrollments were obtained from the various schools in the district. These enrollment figures were obtained generally from the school's "Fourth-Friday"-following-Labor-Day count which was submitted each year to the Michigan State Department of Education. All "Fourth Friday" enrollment figures are for the school years 1962-63 through 1974-75, inclusive.

Table III-4 and Figure III-1 presents the enrollment figures for the public schools in the Berrien Springs Public School District. The total K-12 enrollments grew from 1,400 in 1962 to 2,104 in 1974. This growth has been generally very gradual. The middle sixties experienced the sharpest amount of increase. There was a small decline in 1968. However,this decline was immediately reversed in the following year. Since 1969 there appears to be a leveling off in this rate of increase. During the five year period from 1964 through 1969, there was an overall 31.23 percent increase. The following five year period experienced only a 5.62 percent increase.

Table III-4

BERRIEN SPRINGS PUBLIC SCHOOLS

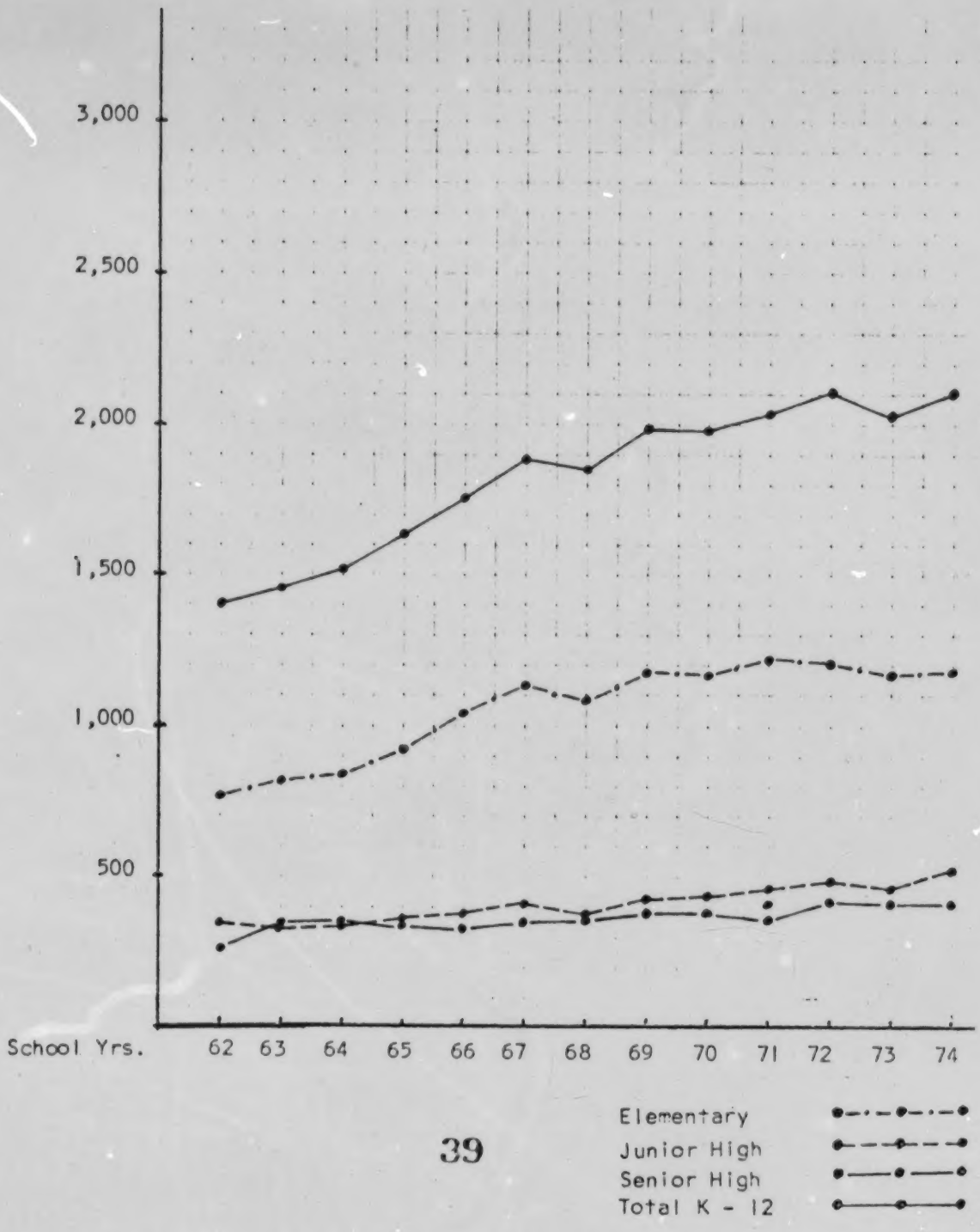
ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K	153	135	152	177	200	216	199	188	178	163	168	165	173
Grade 1	105	126	116	147	148	177	170	204	172	197	166	167	182
Grade 2	114	115	122	122	152	155	150	182	168	172	181	126	153
Grade 3	95	105	123	128	149	150	155	155	170	172	169	187	133
Grade 4	113	102	99	124	135	159	138	160	155	175	193	155	186
Grade 5	103	116	113	108	137	135	144	149	163	150	174	175	175
Grade 6	89	110	119	117	123	139	139	146	164	179	150	183	185
TOTAL	772	809	844	923	1,044	1,131	1,095	1,184	1,170	1,208	1,201	1,158	1,187
Change								340					3
% Change								40.28					0.25
JR. HIGH													
Grade 7	110	92	117	144	125	135	140	144	139	164	180	138	171
Grade 8	106	107	93	114	129	131	118	152	132	153	147	176	154
Grade 9	127	118	125	105	126	141	125	126	158	145	168	148	186
TOTAL	343	317	335	363	380	407	383	422	429	462	495	462	511
Change								87					89
% Change								25.97					21.09
SR. HIGH													
Grade 10	109	126	121	124	112	128	140	121	133	144	150	154	153
Grade 11	100	106	115	118	120	111	118	144	118	103	149	134	133
Grade 12	76	95	103	109	102	113	109	121	138	119	110	118	120
TOTAL	285	327	339	351	334	352	367	386	389	366	409	406	406
Change								47					20
% Change								13.86					5.18
GD. TOTAL	1,400	1,453	1,518	1,637	1,758	1,890	1,845	1,992	1,988	2,036	2,105	2,026	2,104
Change								474					112
% Change								31.23					5.62

SOURCE: Compiled from the Annual Fall - Fourth Friday Reports
Lee Auble, Superintendent of Education
Jon Schuster, Assistant Superintendent of Education
Central Office, Berrien Springs Public School District
Berrien Springs, Michigan

Figure III-1

ENROLLMENTS: BERRIEN SPRINGS PUBLIC SCHOOLS



The enrollment figures for the non-public schools in the district are provided below. The significance of this data is perhaps unique to the Berrien Springs Public School District because of the large percentage of students from the district who do attend non-public schools.

Table III-5 presents the enrollment figures for the Andrews University schools. The total K-12 enrollments grew from 495 in 1962 to 741 in 1974. A high of 778 was reached in 1972. The rate of increase for the University school appears to be similar to that of the public schools, with the growth taking place during the sixties and leveling off during the seventies.

Table III-6 presents the enrollment figures for the Berrien Springs Seventh-day Adventist School. This school has limited its enrollment to the elementary level (1-6) with the addition of grade 7 in 1973 and grade 8 in 1974. The elementary enrollment in 1962 was 125. It dropped to a low of 108 in 1965, grew to a high of 178 in 1970, and then declined to 134 in 1974. With the addition of grades 7 and 8, in 1973 and 1974, the total enrollment reached a high of 188.

Table III-7 presents the enrollment figures for the Trinity Lutheran School of Berrien Springs. This school has limited its enrollment to grades K-8, with the kindergarten beginning in 1970. The enrollment pattern varies, ranging from 84 in 1962 to 80 in 1966, then increasing to 121 in 1970 and 1971. This was then followed by a decline to 87 in 1974. The introduction of kindergarten in 1970 partly accounts for the high of 121. Grades 1-8 had 79 enrolled in 1974, which is just slightly less than the 1962 enrollment of 84.

Table III-5

THE UNIVERSITY SCHOOL - ANDREWS UNIVERSITY

ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K		19	11	26	25	45	24	31	26	34	35	38	48
Grade 1	46	41	30	21	30	31	47	28	52	28	26	36	41
Grade 2	22	22	35	45	31	36	36	51	34	44	32	31	39
Grade 3	26	36	34	43	42	35	42	38	56	35	48	40	36
Grade 4	25	35	53	32	46	41	43	51	44	60	46	43	36
Grade 5	38	37	37	49	30	43	44	48	57	46	68	55	44
Grade 6	39	36	32	32	54	44	48	42	46	62	50	68	57
TOTAL	196	226	232	248	258	275	284	289	315	309	305	311	301
Change								57					12
% Change								24.57					4.15
JR. HIGH													
Grade 7	51	52	64	60	55	76	78	66	71	74	91	59	67
Grade 8	51	54	51	60	76	28	79	67	73	66	80	88	59
Grade 9	52	63	56	71	73	85	69	85	82	74	85	75	103
TOTAL	154	169	171	191	204	189	226	218	226	214	256	222	229
Change								47					11
% Change								27.49					5.05
SR. HIGH													
Grade 10	67	45	62	58	73	77	80	59	84	75	69	79	90
Grade 11	31	48	54	63	62	65	78	75	52	90	66	67	77
Grade 12	47	33	57	61	72	70	68	78	75	81	82	68	64
TOTAL	145	126	173	182	207	212	226	212	211	222	217	214	231
Change								39					19
% Change								22.54					8.96
GD. TOTAL	495	521	576	621	669	676	736	719	752	745	778	747	761
Change								143					42
% Change								24.83					5.84

SOURCE: Compiled from official copies of the school's reports to the Bureau of School Services, The University of Michigan.
Donald E. Van Duinen, Principal - Elementary
William White, Assistant Principal - Secondary
The University School - Andrews University
Berrien Springs, Michigan

Table III-6

BERRIEN SPRINGS SEVENTH-DAY ADVENTIST SCHOOL

ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K													
Grade 1	19	24	18	19	26	33	21	27	25	15	27	20	24
Grade 2	28	13	27	19	25	31	38	22	29	25	14	21	20
Grade 3	18	26	14	21	22	22	36	41	25	29	27	17	23
Grade 4	23	16	20	19	24	20	22	31	42	31	27	25	19
Grade 5	26	22	15	15	26	25	23	28	31	35	28	26	22
Grade 6	11	21	20	15	20	22	27	25	26	31	37	27	26
TOTAL	125	122	114	108	143	153	167	174	178	166	160	136	134
Change								60					-40
% Change								52.63					-22.99
JR. HIGH													
Grade 7												33	26
Grade 8													28
Grade 9													
TOTAL												33	54
Change													
% Change													
SR. HIGH													
Grade 10													
Grade 11													
Grade 12													
TOTAL													
Change													
% Change													
GD. TOTAL	125	122	114	108	143	153	167	174	178	166	160	169	188
Change								60					14
% Change								52.63					8.05

SOURCE: Compiled from official copies of the school's reports to the Bureau of School Services, The University of Michigan.
A. Miskiewicz, Principal
Berrien Springs Seventh-day Adventist School
West Mars Street
Berrien Springs, Michigan

Table III-7

TRINITY LUTHERAN SCHOOL - BERRIEN SPRINGS

ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K									11	12	6	5	8
Grade 1	11	12	13	10	11	14	14	14	15	10	11	5	6
Grade 2	7	13	12	13	8	12	12	15	18	13	10	11	5
Grade 3	13	6	12	13	12	14	12	11	15	20	13	11	9
Grade 4	10	12	8	16	11	12	14	13	10	14	19	13	11
Grade 5	10	8	13	8	13	10	12	13	14	10	14	16	11
Grade 6	9	11	9	12	6	12	8	11	16	14	10	14	16
TOTAL	60	62	67	72	61	74	72	77	99	93	83	75	66
Change	----	----		----	----	----	----	10	----	----	----	----	-11
% Change	----	----		----	----	----	----	14.93	----	----	----	----	-14.29
JR. HIGH													
Grade 7	11	9	12	10	10	9	12	8	13	14	13	8	13
Grade 8	13	11	9	14	9	11	8	12	9	14	12	12	8
Grade 9													
TOTAL	24	20	21	24	19	20	20	20	22	28	25	20	21
Change	----	----		----	----	----	----	-1	----	----	----	----	1
% Change	----	----		----	----	----	----	-4.76	----	----	----	----	5.00
SR. HIGH													
Grade 10													
Grade 11													
Grade 12													
TOTAL													
Change													
% Change													
GD. TOTAL	84	82	88	96	80	94	92	97	121	121	108	95	87
Change	----	----		----	----	----	----	9	----	----	----	----	-10
% Change	----	----		----	----	----	----	10.23	----	----	----	----	-10.31

SOURCE: Official school reports
School Office
Glen Stresman, Principal
Trinity Lutheran School
Berrien Springs, Michigan.

Table III-8 and Figure III-2 present the total enrollment figures for all of the above non-public schools. The total K-12 enrollments grew from 704 in 1962 to 1,036 in 1974. This growth has been generally very gradual and parallels the growth pattern of the public school enrollments, where growth was experienced up to a high of 1,051 in 1970 followed by a leveling off.

Table III-9 and Figure III-3 present the combined total enrollment figures for all public and non-public schools in the Berrien Springs Public School District area. A total K-12 enrollment of 2,104 in 1962 increased to a high of 3,151 in 1972 and dropped slightly to 3,140 in 1974. There was a 29.88 percent increase during the period 1964 to 1969, with a 5.30 percent increase during the following 5 year period of 1969 to 1974.

Table III-10 presents an enrollment summary of both public and non-public schools in the Berrien Springs Public School District area. The enrollments for the elementary, junior high, and senior high school together with the total K-12 enrollments are given for both the public and non-public schools. Percentage figures for each category are also provided. In comparing the public and non-public enrollments, there has been a very consistent relationship in their respective growth patterns. The percentage of non-public students in the district has averaged 34 percent from 1962 through 1974, with a percentage range of only 33 percent to 35 percent.

Table III-11 presents the enrollment figures for the Berrien Springs Public Schools for the school year 1964-65 through 1974-75, as recorded during the middle (January) of the school term.

Table III-8

NON-PUBLIC SCHOOLS
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K		19	11	26	25	45	24	31	37	46	41	43	56
Grade 1	76	77	61	50	67	78	82	69	92	53	64	61	71
Grade 2	57	48	74	77	64	79	86	88	81	82	56	63	64
Grade 3	57	68	60	77	76	71	90	90	96	84	88	68	68
Grade 4	58	63	81	67	81	73	79	95	96	105	92	81	66
Grade 5	74	67	65	72	69	78	79	89	102	91	110	97	77
Grade 6	59	68	61	59	80	78	83	78	88	107	97	109	99
TOTAL	381	410	413	428	462	502	523	540	592	568	548	522	501
Change	------	------		------	------	------	------	127	------	------	------	------	-39
% Change	------	------		------	------	------	------	30.75	------	------	------	------	-7.22
JR. HIGH													
Grade 7	62	61	76	70	65	85	90	74	84	88	104	100	106
Grade 8	64	65	60	74	85	39	87	79	82	80	92	100	95
Grade 9	52	63	56	71	73	85	69	85	82	74	85	75	103
TOTAL	178	189	192	215	223	209	246	238	248	242	281	275	304
Change	------	------		------	------	------	------	46	------	------	------	------	66
% Change	------	------		------	------	------	------	23.96	------	------	------	------	27.73
SR. HIGH													
Grade 10	67	45	62	58	73	77	80	59	84	75	69	79	90
Grade 11	31	48	54	63	62	65	78	75	52	90	66	67	77
Grade 12	47	33	57	61	72	70	68	78	75	57	82	68	64
TOTAL	145	126	173	182	207	212	226	212	211	222	217	214	231
Change	------	------		------	------	------	------	39	------	------	------	------	19
% Change	------	------		------	------	------	------	22.54	------	------	------	------	8.96
GD. TOTAL	704	725	778	825	892	923	995	990	1,051	1,032	1,046	1,011	1,036
Change	------	------		------	------	------	------	212	------	------	------	------	46
% Change	------	------		------	------	------	------	27.25	------	------	------	------	4.65

Figure III-2

ENROLLMENTS: NON-PUBLIC SCHOOLS
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

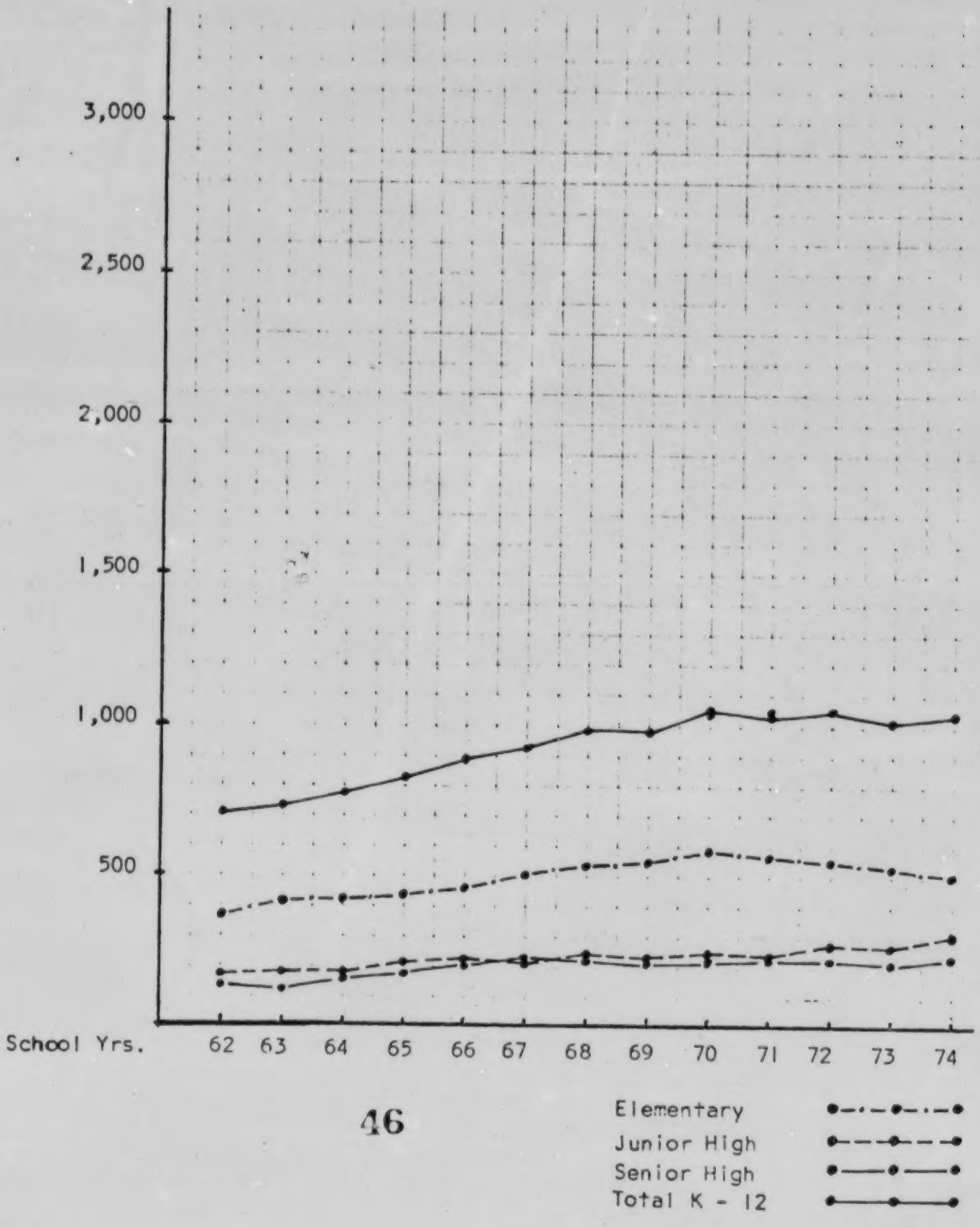


Table III-9

PUBLIC AND NON-PUBLIC SCHOOLS IN THE
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K	153	154	163	203	225	261	223	219	215	209	209	208	229
Grade 1	181	203	177	197	215	255	252	273	264	250	230	228	253
Grade 2	171	163	196	199	216	234	236	270	249	254	237	189	217
Grade 3	152	173	183	205	225	221	245	245	266	256	257	255	201
Grade 4	171	165	180	191	216	232	217	255	251	280	285	236	252
Grade 5	177	183	178	180	206	213	223	238	265	241	284	272	252
Grade 6	148	178	180	176	203	217	222	224	252	286	247	292	284
TOTAL	1,153	1,219	1,257	1,351	1,506	1,633	1,618	1,724	1,762	1,776	1,749	1,680	1,688
Change	------	------		------	------	------	------	467	------	------	------	------	-36
% Change	------	------		------	------	------	------	37.15	------	------	------	------	-2.09
JR. HIGH													
Grade 7	172	153	193	214	190	220	230	218	223	252	284	238	277
Grade 8	170	172	153	188	214	170	205	231	214	233	239	276	249
Grade 9	179	181	181	176	199	226	194	211	240	219	253	223	289
TOTAL	521	506	527	578	603	616	629	660	677	704	776	737	815
Change	------	------		------	------	------	------	133	------	------	------	------	155
% Change	------	------		------	------	------	------	25.24	------	------	------	------	23.48
SR. HIGH													
Grade 10	176	171	183	182	185	205	220	180	217	219	219	233	243
Grade 11	131	154	169	181	182	176	196	219	170	193	215	201	210
Grade 12	123	128	160	170	174	183	177	199	213	176	192	186	184
TOTAL	430	453	512	533	541	564	593	598	600	588	626	620	637
Change	------	------		------	------	------	------	86	------	------	------	------	39
% Change	------	------		------	------	------	------	16.80	------	------	------	------	6.52
GD. TOTAL	2,104	2,178	2,296	2,462	2,650	2,813	2,840	2,982	3,039	3,068	3,151	3,037	3,140
Change	------	------		------	------	------	------	686	------	------	------	------	158
% Change	------	------		------	------	------	------	29.88	------	------	------	------	5.30

Figure III-3

ENROLLMENTS: PUBLIC AND NON-PUBLIC SCHOOLS
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

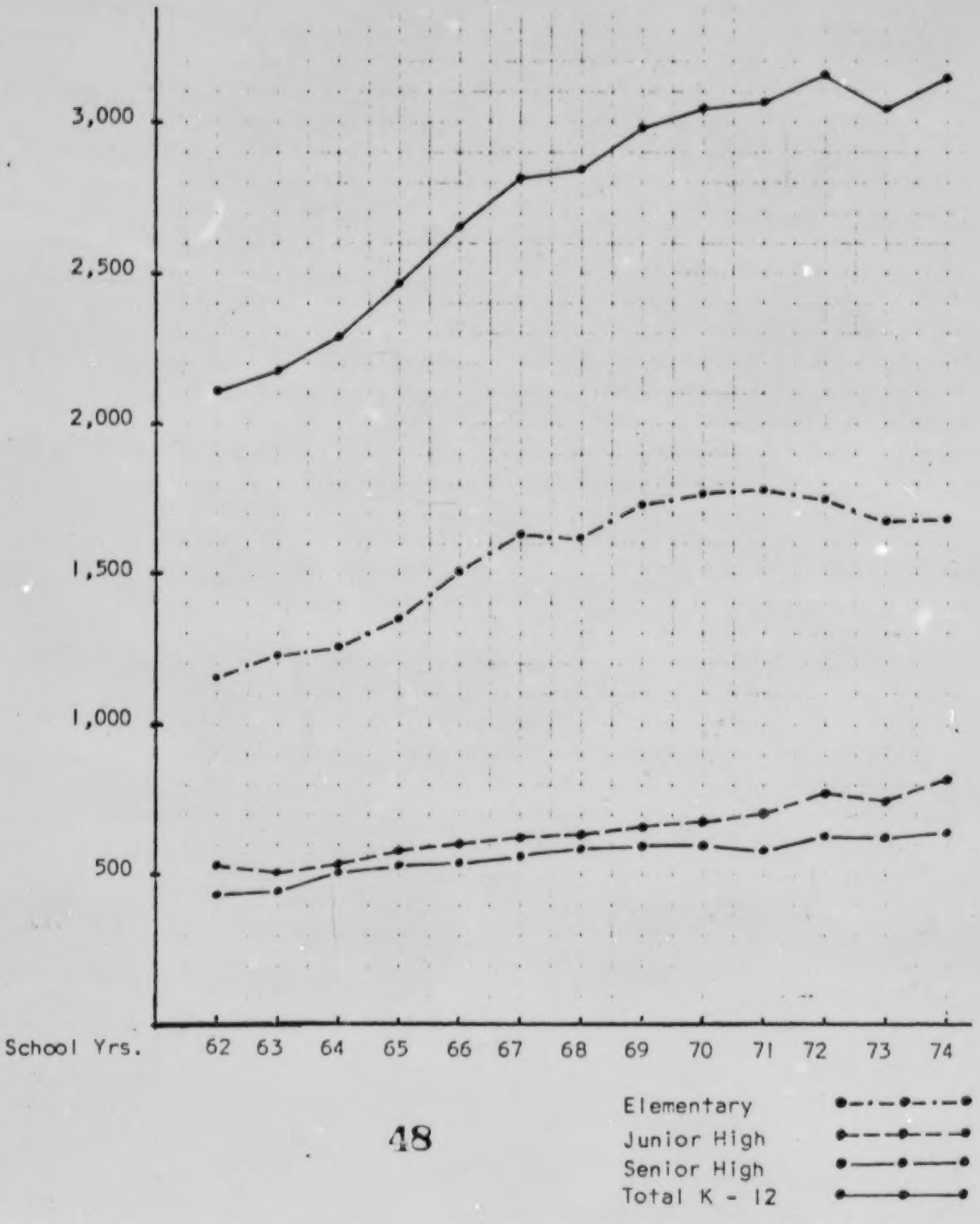


Table III-10

PUBLIC AND NON-PUBLIC SCHOOLS IN THE
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

ENROLLMENT SUMMARY

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Public	772	809	844	923	1,044	1,131	1,095	1,184	1,170	1,208	1,201	1,158	1,187
%	67	66	67	68	69	69	68	69	66	68	69	69	70
N-Public	381	410	413	428	462	502	523	540	592	568	548	522	501
%	33	34	33	32	31	31	32	31	34	32	31	31	30
TOTAL	1,153	1,219	1,257	1,351	1,506	1,633	1,618	1,724	1,762	1,776	1,749	1,680	1,688
JR. HIGH													
Public	343	317	335	363	380	407	383	422	429	462	495	462	511
%	66	63	64	63	63	66	61	64	63	66	64	63	63
N-Public	178	189	192	215	223	209	246	238	248	242	281	275	304
%	34	37	38	37	37	34	39	36	37	34	36	37	37
TOTAL	521	506	527	578	603	616	629	660	677	704	776	737	815
SR. HIGH													
Public	285	327	339	351	334	352	367	386	389	366	409	406	406
%	66	72	66	66	62	62	62	65	65	62	65	65	64
N-Public	145	126	173	182	207	212	226	212	211	222	217	214	231
%	34	28	34	34	38	38	38	35	35	38	35	35	36
TOTAL	430	453	512	533	541	564	593	598	600	588	626	620	637
K - 12													
Public	1,400	1,453	1,518	1,637	1,758	1,890	1,845	1,992	1,988	2,036	2,105	2,026	2,104
%	67	67	66	66	66	67	65	67	65	66	67	67	67
N-Public	704	725	778	825	892	923	995	990	1,051	1,032	1,046	1,011	1,036
%	33	33	34	34	34	33	35	33	35	34	33	33	33
GD. TOTAL	2,104	2,178	2,296	2,462	2,650	2,813	2,840	2,982	3,039	3,068	3,151	3,037	3,140

Table III-11

BERRIEN SPRINGS PUBLIC SCHOOLS

JANUARY ENROLLMENTS

ELEMENTARY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Grade K			131	150	161	200	195	189	169	140	155	153	154
Grade 1			123	115	138	142	160	157	173	162	149	154	158
Grade 2			117	115	111	140	128	148	161	144	161	105	135
Grade 3			101	114	114	132	131	130	132	155	141	158	105
Grade 4			97	97	114	119	128	121	135	153	170	135	154
Grade 5			111	106	98	127	118	123	131	126	152	150	136
Grade 6			104	118	106	109	126	119	132	153	131	151	152
TOTAL			784	815	842	969	986	987	1,033	1,033	1,059	1,006	994
Change													
% Change													
JR. HIGH													
Grade 7			89	106	133	118	120	130	118	150	174	123	143
Grade 8			106	88	109	128	116	114	142	132	136	168	133
Grade 9			115	118	105	118	135	115	118	128	153	142	171
TOTAL			310	312	347	364	371	359	378	410	463	433	447
Change													
% Change													
SR. HIGH													
Grade 10			119	121	119	108	121	140	111	132	133	138	142
Grade 11			103	110	114	110	106	112	132	97	138	122	121
Grade 12			92	104	108	98	112	104	111	114	102	103	112
TOTAL			314	335	341	316	339	356	354	343	373	363	375
Change													
% Change													
GD. TOTAL			1,408	1,462	1,530	1,649	1,696	1,702	1,765	1,786	1,895	1,802	1,816
Change													
% Change													

SOURCE: Central Office, Berrien Springs Public School District
Berrien Springs, Michigan

Table III-12 presents a summary of the "Fourth Friday" (Table III-4) and the "January" (Table III-11) Berrien Springs Public Schools enrollment figures for the school years 1964-65 through 1974-75. It will be observed from this table that there is a considerable drop in the enrollment figures for the "January" count as compared with the "Fourth Friday" count. This is, to a large degree, apparently due to the influx of migrant students who enter the school system in the early fall, but subsequently leave the area before the end of the calendar year.

RATIONAL FOR PROJECTION PROCEDURES

In considering future school facility and land use needs, it is assumed that an increase of 600 pupils in the total elementary school enrollment would indicate the need for an additional elementary school facility. It was estimated that this increase would not take place prior to 1982, the year beyond which it would not be possible to project reliable enrollments utilizing the existing live birth and enrollment data (Tables III-3 and III-4). It was therefore necessary to employ a trend analysis methodology to generate birth and enrollment data beyond 1974 which could then be utilized in the transition analysis (regression) projection methodology.

TREND ANALYSIS

Transition analysis provides the most accurate projection methodology, but to determine the specific year in which the elementary enrollment growth change from 1974 is at least 600, a trend line was generated

Table III-12

FOURTH FRIDAY AND JANUARY ENROLLMENTS
BERRIEN SPRINGS PUBLIC SCHOOLS

School Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
ELEMENTARY											
Fourth Friday	844	923	1,044	1,131	1,095	1,184	1,170	1,208	1,201	1,158	1,187
January	784	815	842	969	986	987	1,033	1,033	1,059	1,006	994
Change	60	108	202	162	109	197	137	175	142	152	193
JUNIOR HIGH											
Fourth Friday	335	363	380	407	383	422	429	462	495	462	511
January	310	312	347	364	371	359	378	410	463	433	447
Change	25	51	33	43	12	63	51	52	32	29	64
SENIOR HIGH											
Fourth Friday	339	351	334	352	367	386	389	366	409	406	406
January	314	335	341	316	339	356	354	343	373	363	375
Change	25	16	-7	36	28	30	35	23	36	43	31
K-12 TOTAL											
Fourth Friday	1,518	1,637	1,758	1,890	1,845	1,992	1,988	2,036	2,105	2,026	2,104
January	1,408	1,462	1,530	1,649	1,696	1,702	1,765	1,786	1,895	1,802	1,816
Change	110	175	228	241	149	290	223	250	210	224	288

utilizing the available birth and enrollment data to extrapolate that particular year. Tables III-13 and III-14 present the results of the trend analysis.

Table III-13

COUNTED AND PROJECTED LIVE BIRTHS
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT AREA

Year	Counted Live Births	Year	Projected Live Births
1958	199	1975	172
1959	205	1976	171
1960	215	1977	169
1961	190	1978	168
1962	186	1979	166
1963	202	1980	165
1964	183	1981	163
1965	155	1982	162
1966	173	1983	160
1967	162	1984	159
1968	180	1985	157
1969	190	1986	156
1970	204	1987	154
1971	189	1988	153
1972	174	1989	151
1973	176	1990	150
1974	175	1991	148
		1992	147
		1993	145
		1994	144
		1995	142
		1996	141
		1997	139
		1998	138
		1999	136
		2000	135

The least squares analysis provided a coefficient of determination of +.22. This indicates a prediction which accounts for 22% of the total variance. The amount of error unaccounted for suggests a fluctuation in the live birth rate over the last 15 years such that a true linear predictive equation is not possible.

Table III-14

PAST AND PROJECTED ELEMENTARY ENROLLMENTS
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

Year	Past Enrollments	Year	Projected Enrollments	
1962	772	1975	1,318	
1963	809	1976	1,356	
1964	844	1977	1,393	
1965	923	1978	1,431	
1966	1,044	1979	1,468	
1967	1,131	1980	1,506	
1968	1,095	1981	1,543	
1969	1,184	1982	1,581	
1970	1,170	1983	1,618	
1971	1,208	1984	1,656	
1972	1,201	1985	1,693	
1973	1,158	1986	1,731	
1974	1,187	1987	1,786	
		* 1988	1,805	(+618)
		1989	1,843	
		1990	1,881	
		1991	1,918	
		1992	1,956	
		1993	1,993	
		1994	2,030	
		1995	2,068	
		1996	2,105	
		1997	2,143	
		1998	2,180	
		1999	2,218	
		2000	2,255	

The least squares analysis provided a coefficient of determination of +.82. This indicates a prediction which accounts for 82% of the total variance. The amount of variance accounted for provides a prediction which indicates a linear relationship with only 18% error.

The year 1988 gives a projected enrollment of 1805 total elementary students, 618 greater than the current year of 1974. Therefore the year of 1988 was chosen to project to by transitional analysis.

It should be noted that the 1975 projection (Table III-14) will probably be somewhat less than the 1318 figure. The only purpose for this data was to provide input for the transition analysis methodology, which was used to project an elementary enrollment of 1833 for the year 1988.

TRANSITION ANALYSIS

To project elementary enrollments to the year 1990, the live births for the Berrien Springs Public School District area, by year, for the period 1975-1980 (See Table III-15), together with the enrollment figures by grade (K-6) for the period 1980-1985 (See Table III-16) are required.

Table III-15

PROJECTED LIVE BIRTHS 1975-1980
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT AREA

Year	Projected Live Births
1975	172
1976	171
1977	169
1978	168
1979	166
1980	165

Table III-16

PROJECTED ELEMENTARY ENROLLMENTS 1980-1985
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

Year	Projected (K-6) Elementary Enrollments
1980	1,506
1981	1,543
1982	1,581
1983	1,618
1984	1,656
1985	1,693

Utilizing the least-squares criterion, the following regression equations with prediction and criterion variables were computed.

Table III-17

PREDICTOR AND CRITERION VARIABLES

	Predictor (enrollment)		Criterion (enrollment)	
a.	Births	1975-1980	Kindergarten	1980-1985
b.	Kindergarten	1980-1984	First Grade	1981-1985
c.	First Grade	1980-1984	Second Grade	1981-1985
d.	Second Grade	1980-1984	Third Grade	1981-1985
e.	Third Grade	1980-1984	Fourth Grade	1981-1985
f.	Fourth Grade	1980-1984	Fifth Grade	1981-1985
g.	Fifth Grade	1980-1984	Sixth Grade	1981-1985

Seven separate regression equations of the form $y = a + bx$ where:

y = Projected enrollment in kindergarten in a given year.

a = The y intercept of the line defined by the relationship between predictors (enrollment) and criterions (enrollment)

b = The slope of the line defined by the relationship between predictors and criterion.

x = The value of the predictor variables

are listed below (Table III-18).

Table III-18

SEVEN SEPARATE REGRESSION EQUATIONS

PREDICTOR		CRITERION	
Year	Births	Year	Kindergarten
1975	172	1980	189
1976	171	1981	190
1977	169	1982	191
1978	167	1983	192
1979	166	1984	194
1980	165	1985	195

$$y = 327.36 + (-.81)\ x$$

Year	Kindergarten	Year	First Grade
1980	189	1981	238
1981	190	1982	244
1982	191	1983	250
1983	192	1984	256
1984	194	1985	262

$$y = -680.16 + (4.86)\ x$$

Year	First Grade	Year	Second Grade
1980	232	1981	200
1981	238	1982	204
1982	244	1983	208
1983	250	1984	212
1984	256	1985	216

$$y = 45.33 + (.67)\ x$$

Table III-18 (Continued)

PREDICTOR		CRITERION	
Year	Second Grade	Year	Third Grade
1980	195	1981	217
1981	200	1982	222
1982	204	1983	228
1983	208	1984	233
1984	212	1985	239

$y = -38.25 + (1.31)\ x$

Year	Third Grade	Year	Fourth Grade
1980	211	1981	237
1981	217	1982	244
1982	222	1983	251
1983	228	1984	258
1984	233	1985	265

$y = -31.52 + (1.27)\ x$

Year	Fourth Grade	Year	Fifth Grade
1980	230	1981	225
1981	237	1982	231
1982	244	1983	238
1983	251	1984	244
1984	258	1985	250

$y = 18 + (.90)\ x$

Year	Predictor	Year	Criterion
1980	218	1981	237
1981	225	1982	245
1982	231	1983	252
1983	238	1984	260
1984	244	1985	267

$y = -14.54 + (1.15)\ x$

The mean number of live births by place of residence for the years 1977-1985 was computed (See Table III-19).

Table III-19

MEAN NUMBER LIVE BIRTHS 1977-1985

1977	169
1978	168
1979	166
1980	165
1981	163
1982	162
1983	160
1984	159
1985	157

$$\Sigma = \frac{1,469}{9} = 163.22 = \overline{EB}_{1988}$$

To project from this data to each elementary grade level the following seven regression equations were computed.

TB-K ($\overline{EB}$1988) = K1988 = 327.36 + (-.81)(163.22) = 195.15

TK-1 (K 1988) = F1988 = -680.16 + (4.86)(195.15)= 268.27

T1-2 (F 1988) = S1988 = 45.33 + (.67)(268.27) = 225.07

T2-3 (S 1988) = T1988 = -38.25 + (1.31)(225.07) = 256.59

T3-4 (T 1988) = Fo1988 = -31.52 + (1.27)(256.59)= 294.35

T4-5 (Fo1988) = Fi1988 = 18 + (.90)(294.35) = 282.92

T5-6 (Fi1988) = Si1988 = -14.54 + (1.15)(282.92)= 310.82

Σ = 1,833.17

Total Elementary Enrollment Projected 1988

ANALYSIS SUMMARY

Trend analysis was utilized to find the year in which a growth of 600 students from 1974 had occurred. The year 1988 predicted 1805, 618 more than the enrollment in 1974 for the elementary school in the Berrien Springs Public School District. Then, by transition analysis, projections to the year 1988 were computed utilizing the data from the trend line. The trend indicated a projection of 1833 elementary (K-6) students in 1988.

CONCLUSIONS

Time and budget constraints prevented a complete K-12 short-range (maximum 8 years) enrollment projection utilizing the current live birth and enrollment data and the transition analysis (regression) projections methodology. However, it is suggested that those responsible for school district planning and operation consider this project as an ongoing annual planning function. This would facilitate constant monitoring of enrollment trends.

The K-6 elementary projection that was developed did indicate the need for an additional elementary school facility by the year 1988.

Figure III-4 presents graphically the actual elementary school enrollments for 1962 through 1974, plus the projected enrollments according to the methodology employed above. Also indicated is the straight-line projection as provided by Driker (1971, p. 32). A straight line drawn from the 1974 enrollment to the 2,400 figure as provided for the year 1999 by Driker goes through the 1988 projection of 1805 as provided by this study.

Figure III-5 presents graphically the counted live births (See Table III-13) for the school district for the years 1958 through 1974, plus the projected live births as given above.

Figure III-6 presents graphically the number of households in the district for the years 1960 through 1975 (See Table III-2), plus a straight-line projection.

It will be observed from the above three figures that a moderate and continuous increase in the elementary school enrollment will continue through to the year 2,000. By contrast, the rate of growth of households has been considerably greater, and the projected rate of growth of households is indicated to continue. The gradual decline in live birth rates, both past and projected, tends to stabilize and limit any rapid enrollment growths that may be suggested by the more rapid growth in households. This increase in households, together with the decline in the live birth rate, tends to reflect the current societal trends regarding family size.

The wide variety of housing types that exists in the district will probably tend to minimize any cyclic population patterns often produced by a homogeneous type of housing condition.

Land use patterns, which are directly affected by zoning regulations, will have a definite bearing on any future projections. If the recommendations as given in the various previous area planning proposals are adhered to, then future housing developments will tend to take place in areas closely adjacent to existing population centers.

There appear to be no major economic or industrial aspects that will drastically alter future growth patterns in the district. However, state plans for a limited-access highway connecting Berrien Springs with

I-94 and the Twin Cities area in the north, and Niles and South Bend in the south, will have some influence on population growth patterns. There will probably be some tendency toward the area becoming a "bedroom" community for a growing commuting population. These developments will require close observation.

A major influence on the economic, housing, and student-population factors of the school district area is that of Andrews University. There appears to be no indication that any great change will take place regarding this influence; therefore, a gradual growth pattern will tend to continue. While a major portion of the student enrollment in non-public schools in the district has a relationship to the University community, an examination of Table III-10 indicates that the ratio of enrollment in non-public schools to enrollments in public schools has been very constant since 1962.

The school district will probably require a contingency plan regarding the migrant school population that enters the school system each fall. A long range projection of this element appears to be impossible due to the many variables involved. It does appear however, that this condition will continue to some degree in the immediate future.

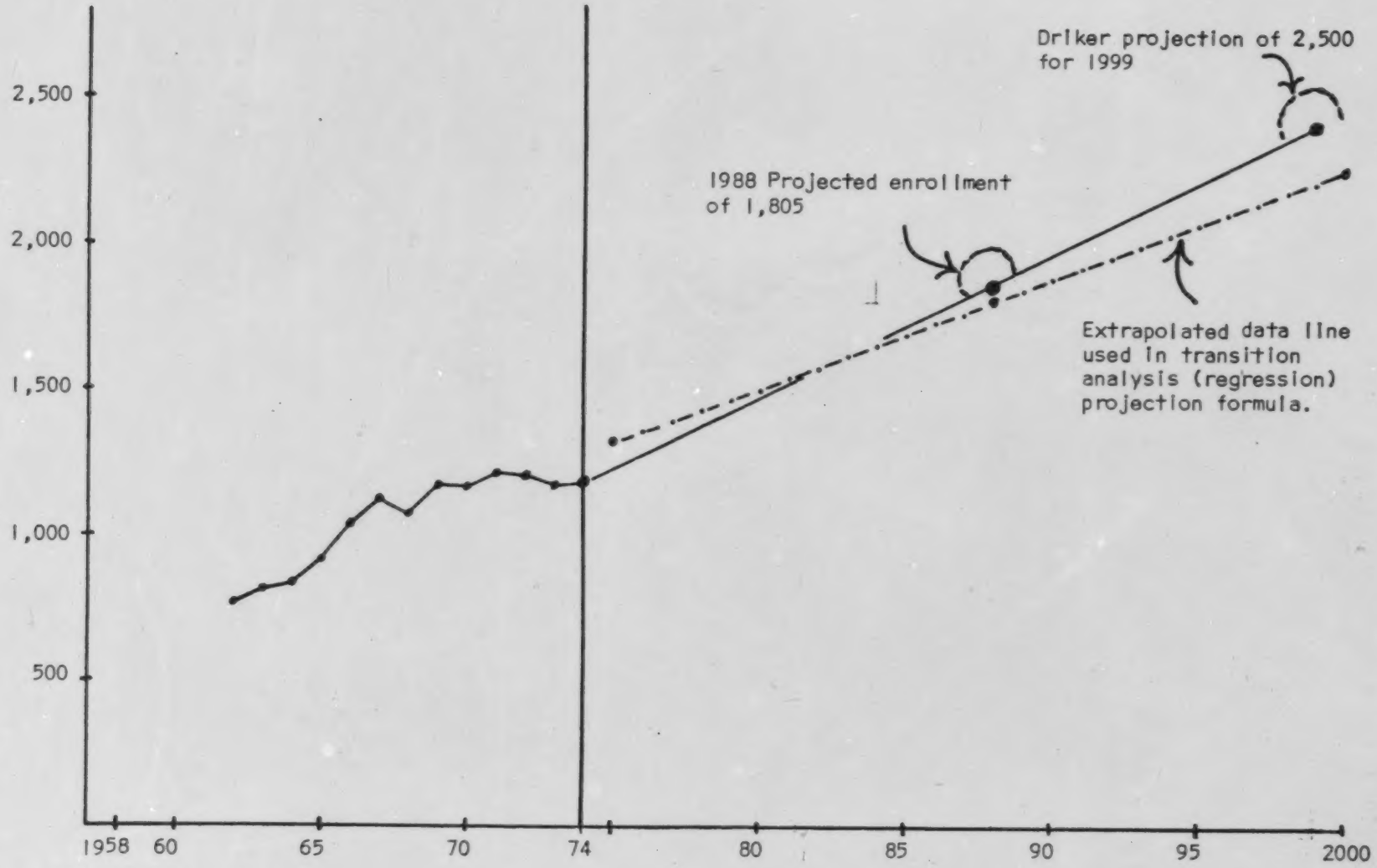


Figure III-4
ELEMENTARY ENROLLMENTS (K-6): ACTUAL AND PROJECTED TREND
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

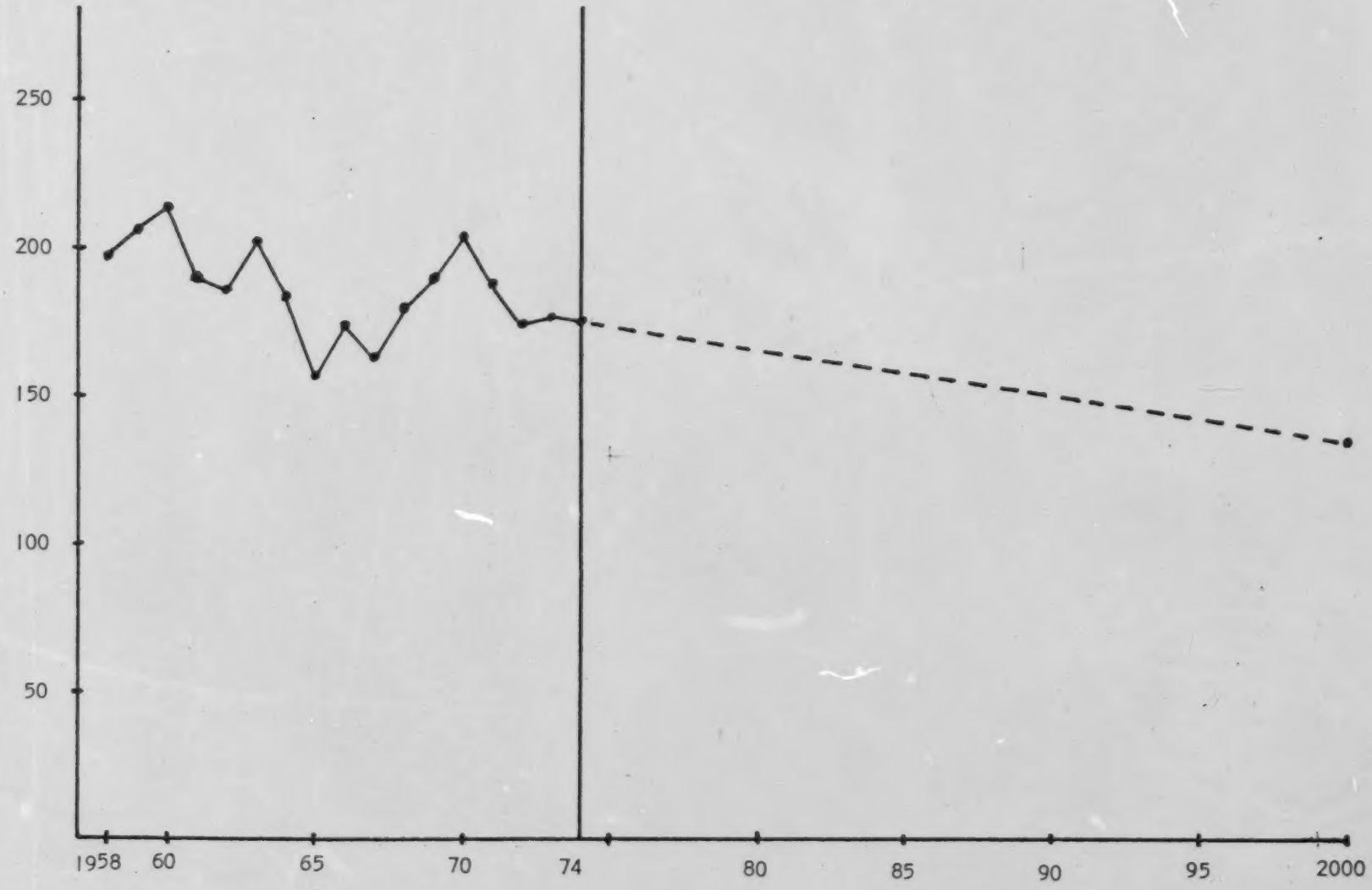


Figure III-5
LIVE BIRTHS: ACTUAL AND PROJECTED TREND
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT AREA

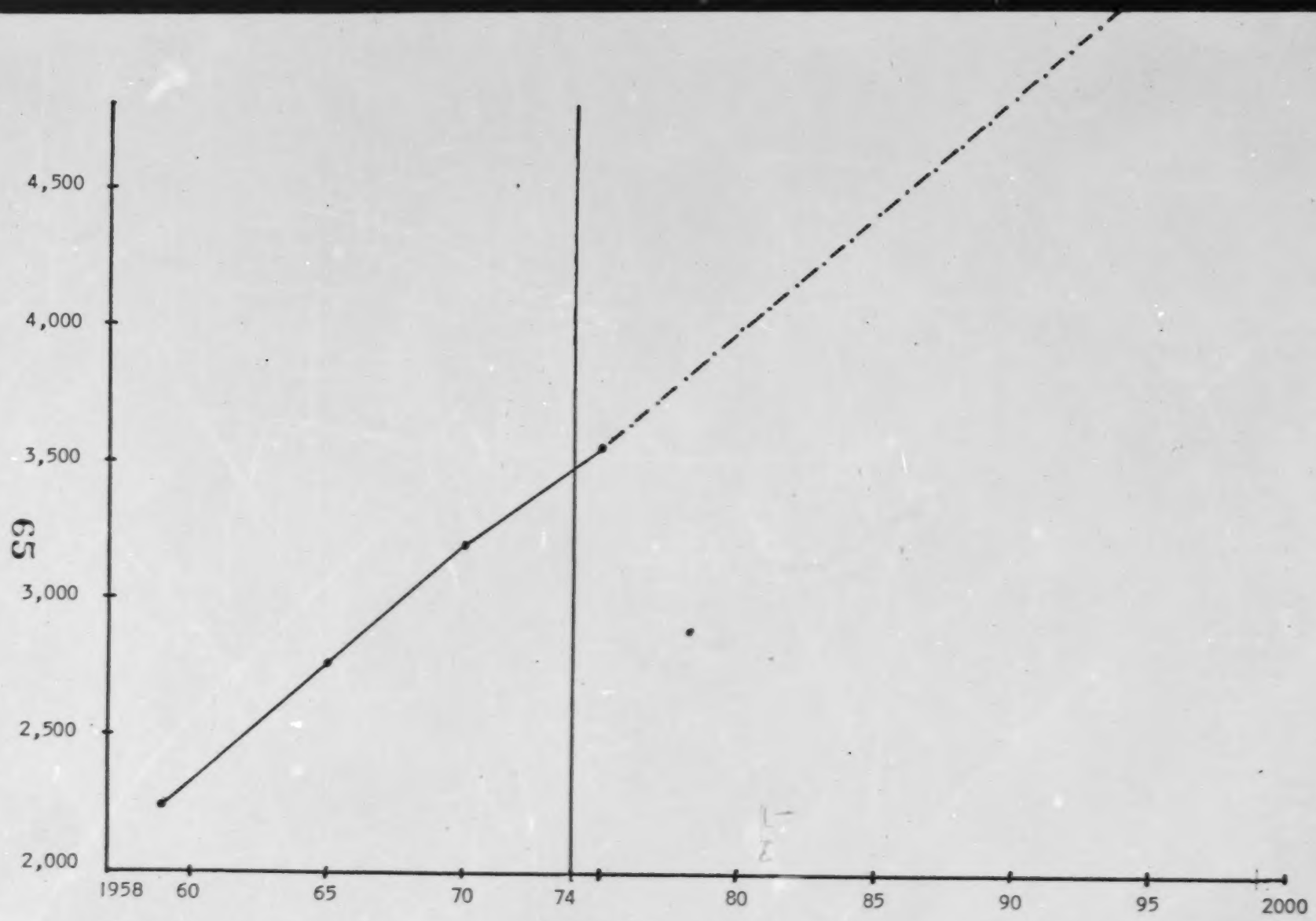


Figure III-6
NUMBER OF HOUSEHOLDS: ESTIMATES AND PROJECTED TREND
BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT AREA

CHAPTER IV

SCHOOL SITE

The Berrien Springs Public Schools are located in Berrien County, Michigan, mainly in Oronoko township. The boundaries of the school district are shown in Figure IV-1. The school site is part of the Village of Berrien Springs. The latest map of the village was drawn up in 1966 and is presented in Figure IV-2. Figure IV-3 shows the available site elevations.

AREA OF THE SCHOOL SITE

The Berrien Springs Public School site comprises mainly two parcels of land, a large section on which the elementary, middle, and high schools are located and the area where the old junior high school is situated. The school site comprises, to the best available calculations, a total of 78.64 acres or 3,425,600 square feet.

As shown in Figure IV-4, the site was subdivided into six areas in order to facilitate analysis and comparisons. No division was made between the middle and high school sites, for the area is in common use by both schools and the plans did not lend themselves to division. The Sylvester Elementary School's south border was set rather arbitrarily, in line with general usage, in order to subdivide the large area and facilitate the analysis. This division makes the Sylvester Field a rather self-contained unit. Area four, designated as a "park", is not

FIGURE IV-1

BOUNDARIES OF THE BERRIEN SPRINGS PUBLIC SCHOOL DISTRICT

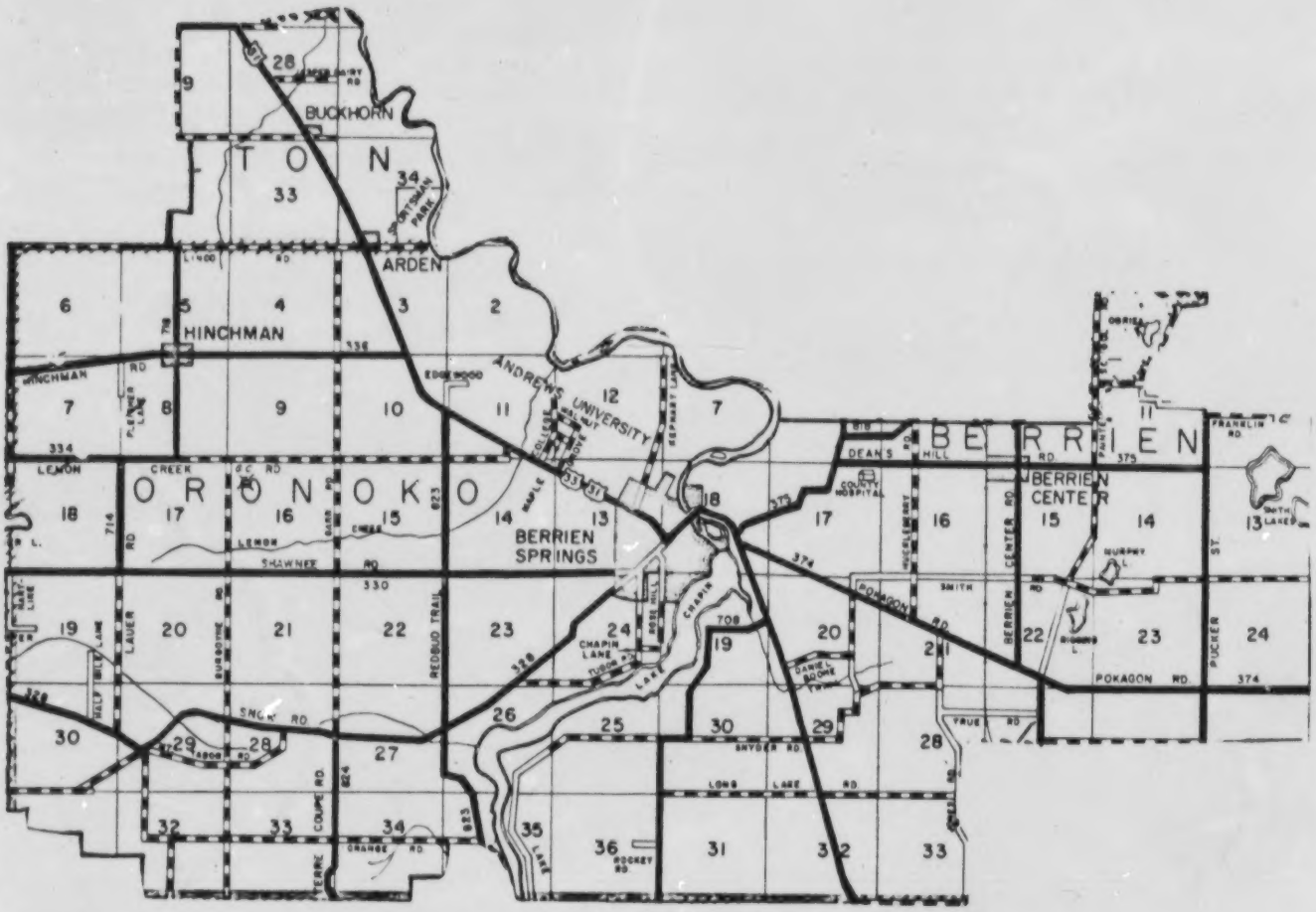


FIGURE IV-2 VILLAGE OF -4-

BERRIEN SPRINGS

BERRIEN COUNTY, MICHIGAN

REVISED JANUARY 1968
DREHER ENGINEERING

Figure IV-3

Berrien Springs Public Schools

Site Elevation

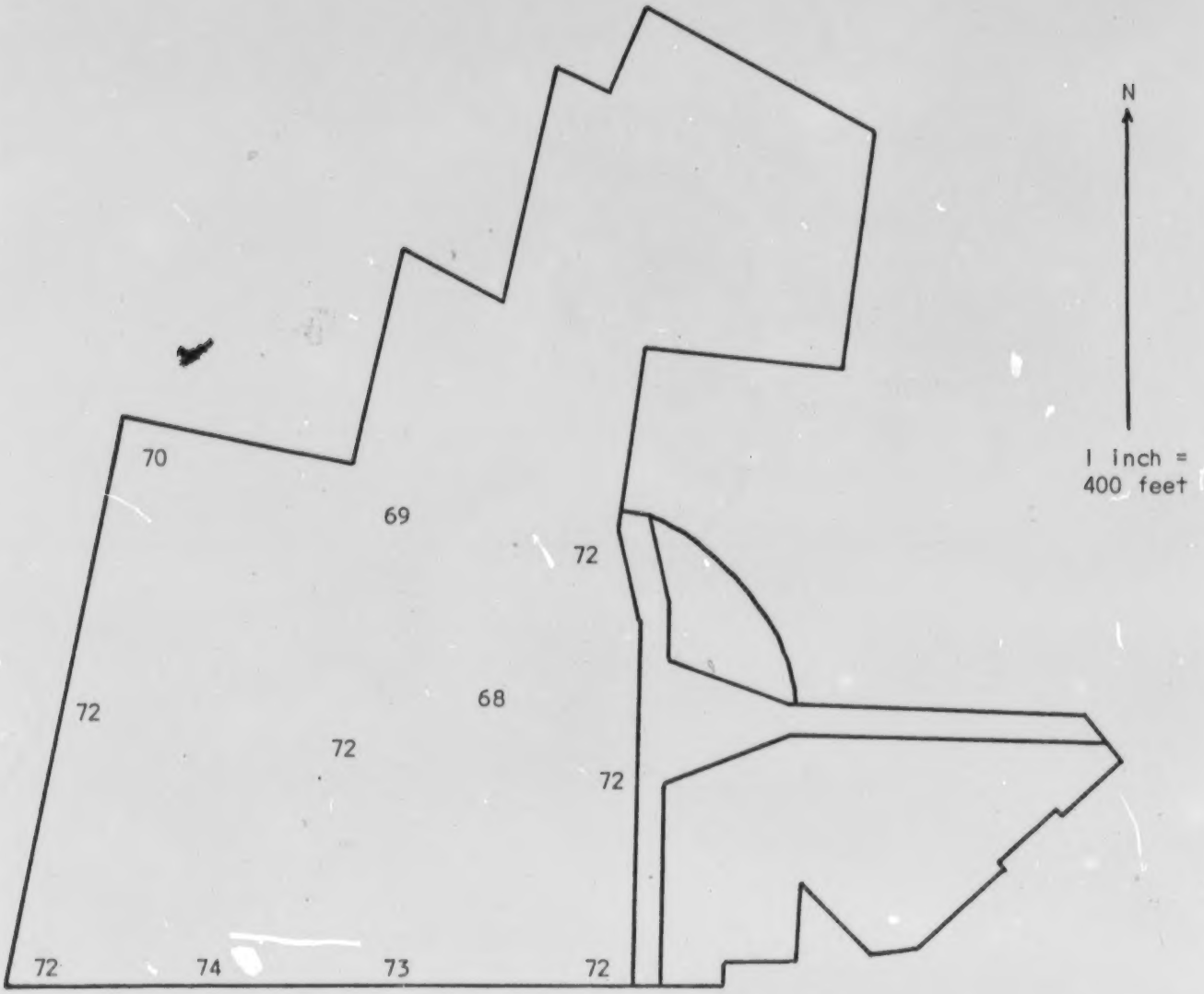


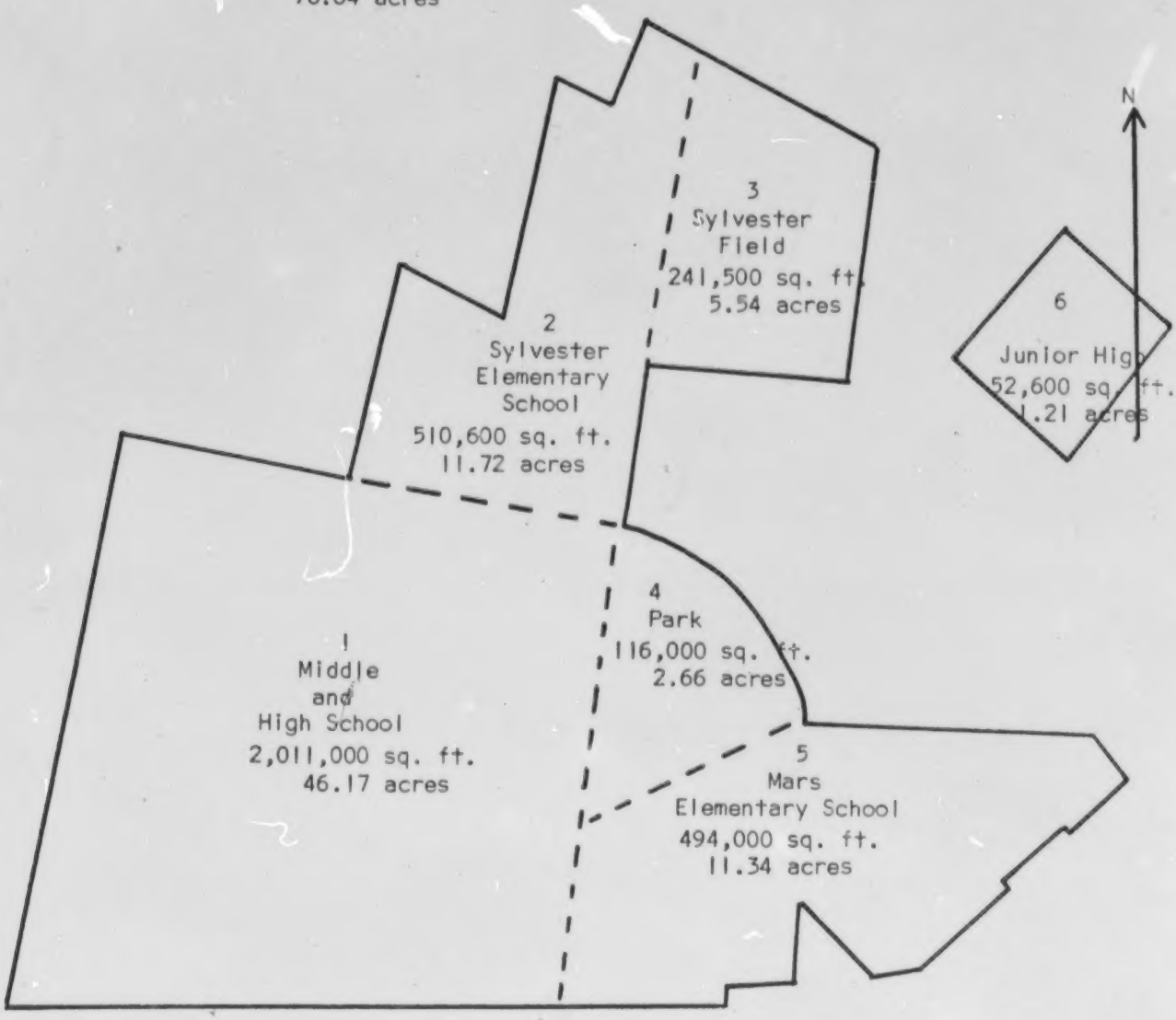
Figure IV-4

Berrien Springs Public Schools

Size of Areas in Square feet and acres

Total Area: 3,425,600 square feet

78.64 acres



in use at present. The area designated as Mars Elementary School also contains a section used by temporary classrooms and a garage. The Junior High School is on a detached block which contains very limited space and has limited educational possibilities.

Tables VI-1, 2, 3 are based on the recommendations from the Michigan Department of Education's School Plant Planning Handbook, part of which is reproduced in Appendix G. For a full understanding of the tables presented here, the reader should carefully review this appendix. In all cases, the acreages recommended are optimum and may not be possible in densely populated areas.

Tables IV-1 and IV-2 show the calculation of the recommended school sites and a comparison of the recommended areas with the actual areas. From these tables it may be concluded that the total present school sites comprise sufficient land area for the present enrollment.

The sizes of the school buildings are analyzed in Table IV-3. The average per student area was largest in the middle school and smallest in Mars Elementary School. Further descriptive elements of the school sites may be found in other chapters, in the appendix, in the topographical chart, maps, and the aerial photos.

GENERAL SITE-DEVELOPMENT CONSIDERATIONS

Study may be given to a number of general site-development considerations. These may include the self-containing school concept, the educational-park concept, and the educational-region concept.

According to the self-contained school concept, as applied to Berrien Springs Public Schools, each school would conduct its own

Table IV-1. RECOMMENDED SCHOOL SITE SIZE FOR BERRIEN SPRINGS PUBLIC SCHOOLS IN ACRES*

Area	Enrollment	Basic Area	One Acre For Each 100 Students	Total Acres
High School	339	20	3	23
Middle School	564	30	6	36
Sylvester Elementary School	573	10	6	16
Mars Elementary School	685	10	7	17
Total	2,161	70	22	92

*Michigan Department of Education, School Plant Planning Handbook, Bulletin 412 (Rev.) Lansing, 1970.

Table IV-2. COMPARISON OF EXISTING AND RECOMMENDED SCHOOL SITE AREAS FOR THE BERRIEN SPRINGS PUBLIC SCHOOLS IN ACRES

Area No.	Area	Existing Area	Recommended Area*	Over or Below Recommended Area
1.	Middle and High School	46.17	59.00	12.83 - Below
2.	Sylvester Elementary School	11.72	16.00	4.28 - Below
3.	Sylvester Field	5.54	X	5.54 - Over
4.	Park	2.66	X	2.66 - Over
5.	Mars Elementary School	11.34	17.00	5.66 - Below
6.	Junior High School	1.21	X	1.21 - Over
	Total	78.64	92.00	13.36 - Below

*Michigan Department of Education, School Plant Planning Handbook, Bulletin 412 (Rev.) Lansing, 1970.

Table IV-3

SIZE OF BERRIEN SPRINGS PUBLIC SCHOOL BUILDINGS

Area	Buildings	Enrollment	Size in Sq. Ft.*	Sq. Ft./Student
1	Middle School	339	87,600	258.41
1	High School	564	78,000	138.30
2	Sylvester Elementary School	573	45,000	78.53
5	Mars Elementary School	685	46,000	67.15
	Total	2,161	256,600	118.74

*Source: Blueprint

program and provide all its own facilities for its activities. This would require the duplication of seldom-used facilities and is not recommended.

The educational-park concept provides for a cluster of schools in a common setting that, wherever practical, make use of common facilities. Preston Search, a disciple of John Dewey, proposed this idea at the turn of the century and included such areas as a zoological garden, a museum, a miniature ranch, a lake, a garden, and a park. Both the site and the student population of the Berrien Springs Public Schools are too limited to make full use of this concept. But the following elements of this idea could be considered as sound educational options:

1. A unified site-planning with common landscaping, biosphere maintenance, and traffic flow.
2. Common use of physical education facilities by middle and high school students.
3. Full site use for adult and community education.

The educational-region concept provides for cooperative development among all educational agencies and education-related agencies in the region. Since education is a life-long process and much of it takes place in the community, it must be broadly based and not be limited to a certain age group and locality. Further, cooperative planning with all public and private education agencies in the region may be considered. In this, care must be taken to preserve the integrity of each organization while focusing on possible areas of cooperation. Besides the Berrien Springs Public Schools, the immediate region includes among others the Berrien County Intermediate Schools, the Lutheran Elementary School, the Andrews University Schools, Andrews University, and a number of early-childhood programs.

THE JUNIOR HIGH SCHOOL SITE

With the moving of the junior high school into the new middle school building this summer, consideration should be given to the use of the 1.21 acre parcel of land presently occupied by the old junior high school building. A careful study considering the following factors is recommended:

1. Future development of Berrien Springs.
2. Structural soundness of the building.
3. Future educational needs in special areas.
4. Surroundings of the property.
5. Value of the property.
6. Cost of removing the building.
7. Cost of renovating the building for other purposes

CONSIDERATIONS FOR SITE EXPANSION

The sites adjacent to the Berrien Springs Public School property were reviewed. Special attention was given to the sites west of the present school site. Many of these are not as yet developed. Figure IV-5 shows the tracts of land considered and Table IV-4 indicates the owners of these tracts. In order to fully meet the present site requirements and the requirements for the projected enrollment, study should be given to acquiring the land adjacent to the western boundary of the present site.

The needs for additional land are presented in Table IV-5.

Figure IV-5

Sites Adjacent to the West of the

Berrien Springs Public Schools

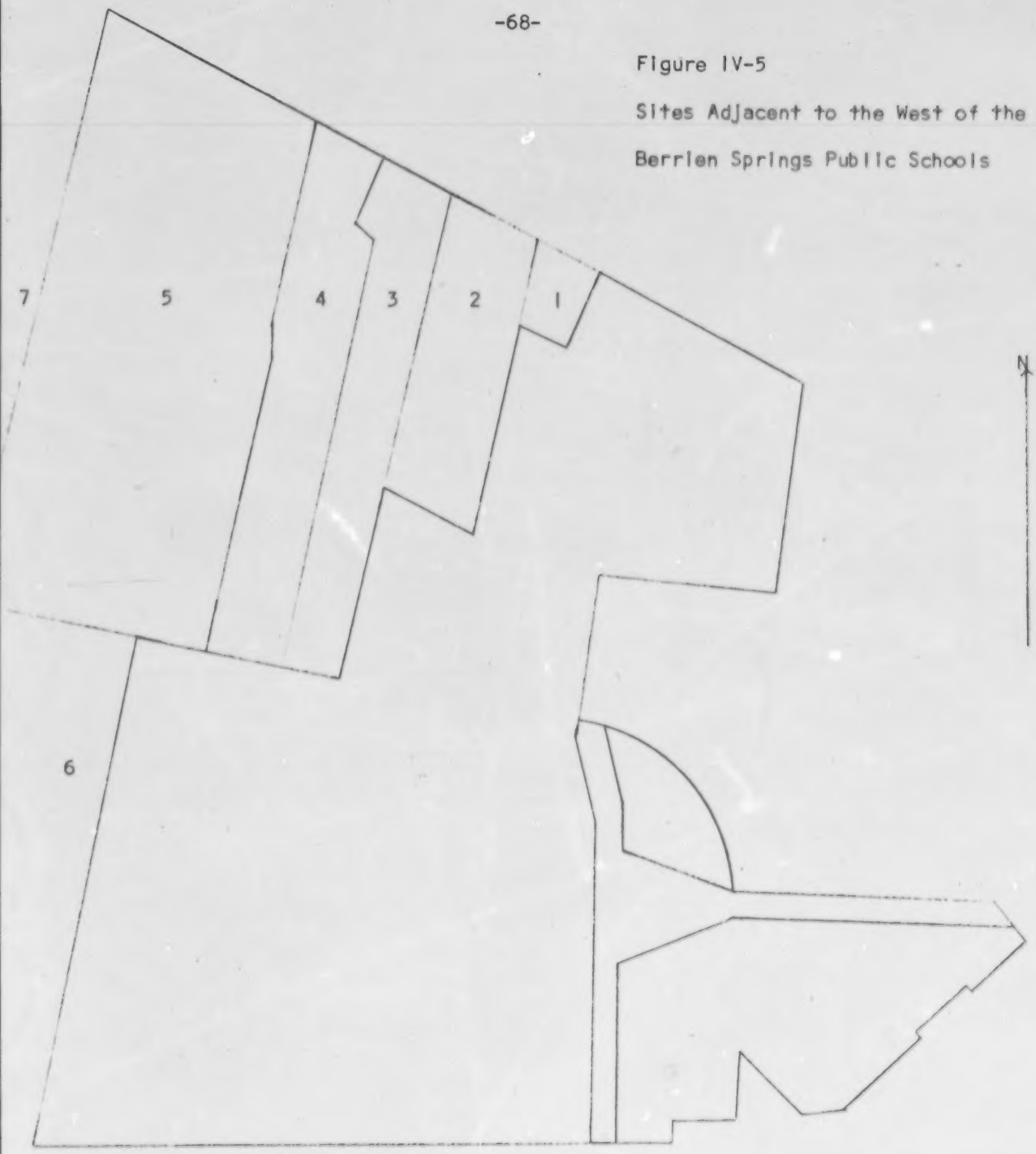


Table IV-4

Owners of Sites Adjacent to the West of the Berrien Springs Public Schools

Site No.	Owner and Address	Size in Acres
1.	Gary Rusk 736 Timberland Berrien Springs, MI 49103	.8 acres (approx.)
2.	Michigan Conference of S.D.A. (Village S.D.A. Church) P. O. Box 900 Lansing, MI 48904	5 acres
3.	Enoch and Lilly Erlandson St. Joseph Road Berrien Springs, MI 49103	6 acres
4.	Enoch and Lilly Erlandson St. Joseph Road Berrien Springs, MI 49103	5.9 acres
5.	Berrien County Intermediate School District St. Joseph Road Berrien Springs, MI 49103	18.6 acres
6.	M. Purnel Trust Box 187 Benton Harbor, MI 49022	26 acres
7.	Berrien County Fair Board St. Joseph Road Berrien Springs, MI 49103	55 acres

Table IV-5. SITE EXPANSION NEEDS OF THE BERRIEN SPRINGS PUBLIC SCHOOLS

No.	Description	Size in Acres
1	Area short of the requirements for present enrollment	13.36
2	Site for future third elementary school, 600 students	16.00
	'77 Total	29.36

CHAPTER V

EDUCATION PROGRAM

The curriculum of the Berrien Springs Public Schools may be divided into three parts, the elementary school, the middle school, and the senior high school curriculum.

The hours annually spent in mandatory instruction for each student are given in Appendix H. The various secondary school subjects classified into instructional divisions are presented in Appendix I. Also presented in Appendix J are the subjects offered in the Berrien Springs Public School Continuing Education Division.

The elementary school curriculum (K-6) consists of instruction in reading, mathematics, writing/penmanship, social studies, science, physical education, art, vocal music, and spelling. Instruction in these subjects is mostly given indoors, but with proper facilities a part of the science and physical education instruction may be given out-of-doors.

The manditory middle school curriculum includes reading, mathematics, social science, science, physical education, art, vocal music, English, literature, and communications. The manditory high school curriculum consists of mathematics, social studies, science, physical education, English, literature, and writing skills.

The education program as a whole follows the generally accepted standards of Michigan education. Some of the strengths and weaknesses

of the high school program are given in the Report of the North Central Association Evaluation Team, dated November 1974.

A detailed analysis of the present educational program would produce more data than those required for the present study. But from visits to the schools, visits with teachers and administrators, and examination of records, it may be concluded that all programs are somewhat hampered because of inadequate science and outdoor physical education facilities. Further, the present high school plant does not have adequate space needed for a fully satisfactory educational program. The middle school is in the process of moving to new facilities, a step that will put that program into a good, educational environment. The elementary schools are, in the main, self-contained programs that function as classroom units.

The following chapters, dealing with the land-utilization options, will also involve the educational program in the areas of biological sciences, physical education, and specialized education.

CHAPTER VI

LAND-UTILIZATION OPTIONS: BIOSPHERE

It is important in the construction of a master plan for the school system to include sites suitable for the maintenance and development of a biosphere conducive to instructional use and to the encouragement of native wildlife. The Berrien Springs Public School System is located between two well-established natural areas that can be visited by short bus trips, namely Fernwood on Rangeline Road, and the Sarrett Nature Center east of Benton Harbor. However, the development of the school system's own campus is vital for esthetics as well as for environmental education.

The best method for developing a functional natural area includes the utilization of property borders and corners. This concept is outlined in Figure VI-1. Evergreens of mixed varieties provide a windbreak, shelter for birds,and an esthetic all-season screen. It is recommended that at least double rows (preferably triple rows) of mixed evergreens be planted at 20 foot intervals along the western boundary of the school property. It is particularly important to screen the north fence line along US 31 with a triple row of white spruce. These trees should be planted at least 15 feet from the fence line to allow for proper fence maintenance. By clustering hardwoods in corners and at intervals along the remainder of the boundaries, an ecological edge effect will be created that will provide for excellent nature trails and native bird

Figure VI-1

Berrien Springs Public Schools

Biosphere Outline*

*The detail blueprint on which the above outline is based is given in the Appendix.

territories. Reference should be made to the accompanying blueprint lay-out for suggested arrangement of plant types between the hardwoods. Random clusters of evergreens should be planted for esthetics and variation of wildlife.

ARBORETUM DEVELOPMENT

The westernmost corner of the property could be developed into an arboretum of native Michigan trees with those along the trails being marked with species names. Trails could be made of wood chips for easy walking and for prevention of erosion. Between trees, shrubs such as Vibernum, spice bush, and witchhazel would add interest and provide food for birds.

POND DEVELOPMENT

In the same area an irregularly shaped pond might be developed. Recommendations from Mr. William Westrate, of the United States Department of Agriculture, and Dr. Gerald Snow, Ecologist at Andrews University, indicate that a pond about sixty feet wide and two hundred feet long could be developed.

The soil is Kalamazoo sandy loam with a subsoil of sandy clay loam underlain by sand and gravel. In order to construct a pond to hold water in this area, the excavation would need to be liberally lined with bentonite clay from Foundaries Materials Company, Coldwater, Michigan. Information on methods of sealing, costs of materials, and so forth is available from the company. A similar pond has been

constructed on Bob-O-Lou Farms, R# 4, Niles, Michigan. A water line or well must be provided to maintain the water level. It is estimated that such a pond would cost about $3,000.

A Martin house could be maintained near the pond and blue-bird nesting boxes might be provided at intervals along the boundaries. The birds for which these facilities are developed are both desirable species.

PROCUREMENT OF TREES

Evergreen seedlings are available annually from the Soil Conservation Service. These must be ordered by March 1 and would be delivered in April in time for planting. The cost of tree seedlings is $40.00 per thousand. Each school should be encouraged to set aside an afternoon for the planting of the trees. Children who have a part in the activities will benefit educationally from the experience as they work with their teachers. Being involved will help them to develop a natural responsibility for the protection of the growing plants.

The high school and middle school biology classes could take the main initiative in developing the western arboretum and edge-effect ecotone. It may be necessary to purchase some hardwoods and decorative trees such as dogwoods and redbuds. Other types of trees could be solicited from interested area farmers who have small trees available for transplanting. In this way the community will be encouraged to take an active interest in developing the natural areas of the campus.

GARDEN SPACE

Schools in climate zones conducive to vegetable gardens are encouraged to instruct children in the art of food production by maintaining plots for gardens. In this area, unless a summer program is organized, growing of vegetables may not be possible. The only vegetable crop that probably would mature before summer recess is the radish. These could be grown under various experimental conditions comparing the use of chemical fertilizers with organic gardening methods. Garden space located conveniently near the school buildings would have more meaningful use. Time could be provided in the curriculum for such instruction so that every pupil would be able to gain the knowledge, experience, and fun of growing good crops.

Adjacent to the buildings and driveways are many areas and strips that could be made into esthetic flower gardens. Children should have an active part in this also. Perhaps a prize trophy could circulate among the various schools on the campus for the school that develops the best spring flower garden each year. Beds would be prepared in the fall and by May all would be in bloom. In this way, enjoyment and respect for beauty would be instilled in the pupils. They would have an education that would train them to cultivate and protect the environment rather than to destroy it. Suggestions are made on the blueprint for possible garden sites for each school. With enthusiasm engendered by the teachers, Berrien Springs could have the most esthetic school property in Michigan.

ADJACENT NATURAL AREA

Immediately west of the school property is one of the most interesting wild areas in Berrien County. It has long been known as the City of David Swamp. Immediate steps should be made to preserve this area as a natural environmental study area for the Berrien Springs Public Schools and for Oronoko Township. The east swamp area is now owned by the Berrien County Youth Fair grounds. The western section is owned in part by Andrews University.

The recommendations for improving the swamp as a study area are:

1. Dedicate the preserve immediately to prevent drainage of the swamp. The Oronoko Township Planning Commission and Board should be approached without delay to negotiate the preservation of this area.
2. Mow trails along the outer edge of the property.
3. Construct a wooden dock for observation of the deeper water and for water sampling.
4. Construct an observation platform about twelve feet high at the edge of the swamp for observing water birds.

CHAPTER VII

LAND-UTILIZATION OPTIONS: PHYSICAL EDUCATION

The physical education and recreation facilities of the Berrien Springs Public Schools must be considered in light of the ages of the users. Thus this chapter will consider first grades K-3 at Mars Elementary School, grades 4-6 at Sylvester Elementary School, and the outdoor facilities for the middle and high school.

MARS ELEMENTARY SCHOOL

At the Mars Elementary School, the four priority concerns are:

1. Drainage problem in play area immediately around school.
2. Increased hard-surfaced area for play and recreation for elementary youngsters.
3. Expansion of swing and playground area for elementary youngsters.
4. Installation of exploration area with tiles, ladders, ropes, and similar equipment.

Figure VII-1 shows the spaces for the outdoor physical education facilities around Mars Elementary School.

SYLVESTER ELEMENTARY SCHOOL

The five priority concerns at the Sylvester Elementary School are:

1. Grading of land surrounding the school.

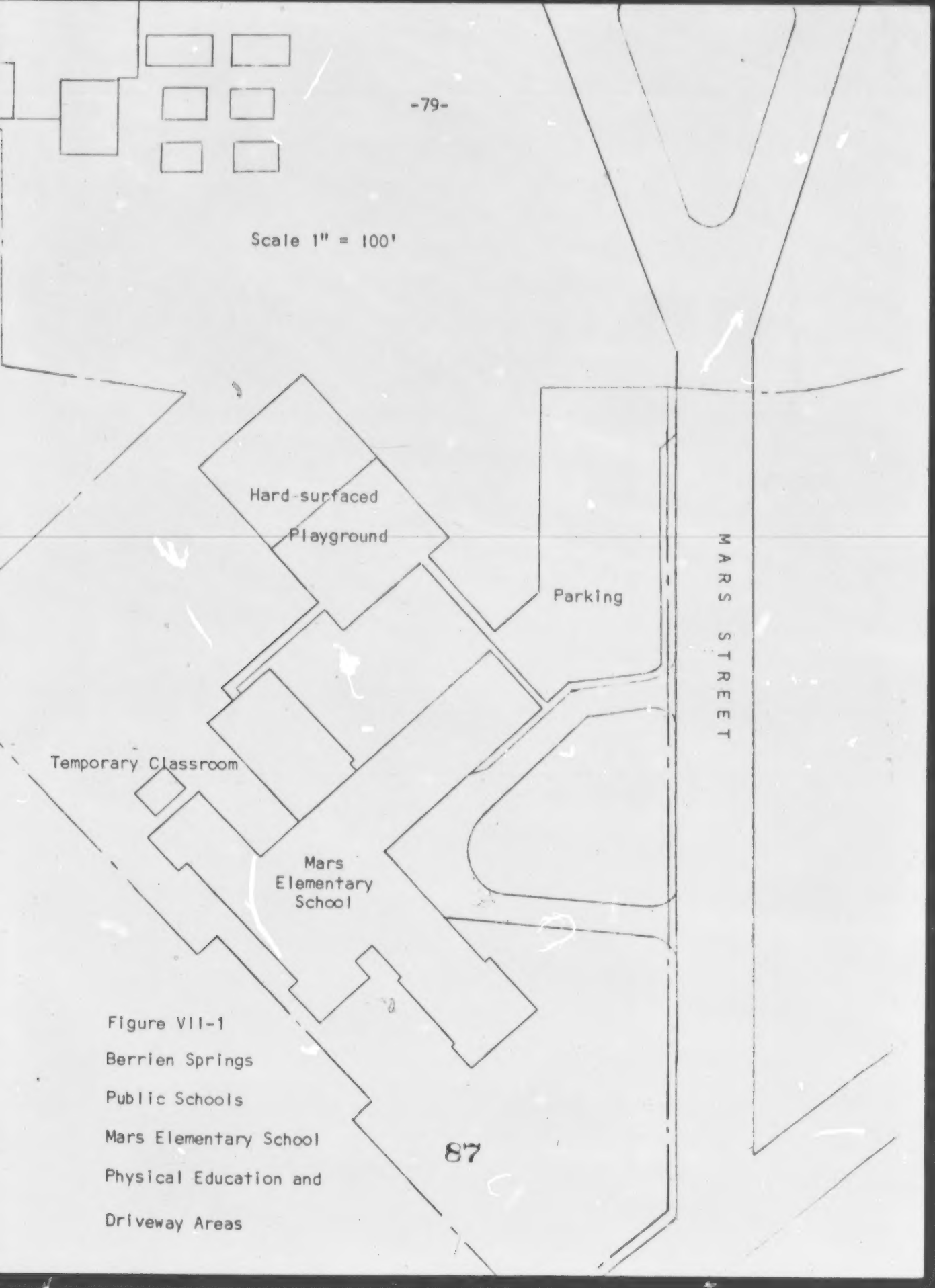


Figure VII-1
Berrien Springs
Public Schools
Mars Elementary School
Physical Education and
Driveway Areas

2. Hard-surfaced area for play and recreation for the youngsters. This could easily include removeable tennis posts thus making the area usable in spring and summer as tennis courts which could be available to teachers and community.
3. Installation of two softball fields with backstops.
4. Lining of one football-soccer field.
5. Area for motor exploration and creative play, including culverts, ropes, tires, suspended tram, and other such equipment.

The proposed outdoor physical education facilities are shown in Figure VII-2.

MIDDLE SCHOOL AND HIGH SCHOOL

Because of the duplication and overlap between middle school and high school, these two areas will be considered in conjunction with each other. It is very difficult to obtain an accurate priority list on the outdoor facilities because the coaches of the interscholastic sports are not the ones who are teaching physical education. The coaches see the needs of a very select group of individuals within the school without concern for the instruction of the entire school body. In a similar way, the physical education teachers do not see accurately the sports program needs. With careful planning and scheduling the development of overlapping facilities can be kept to a minimum. Keeping in mind the needs of both the interscholastic sports program and physical education instruction, the following facilities are recommended:

1. Six softball diamonds with backstops.

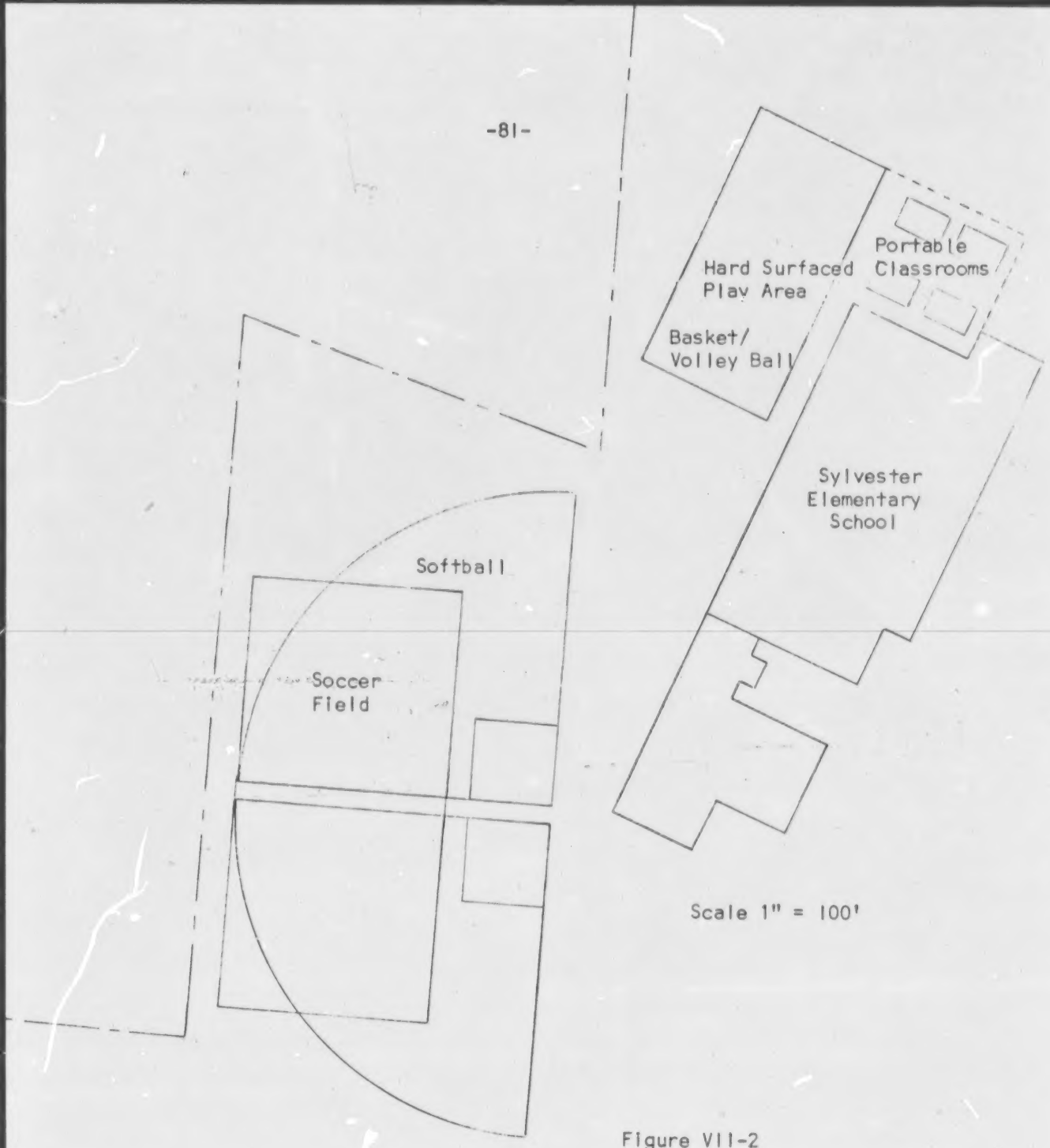


Figure VII-2

Berrien Springs Public Schools

Sylvester Elementary School

Physical Education Areas

2. Four football fields, one of which would have goal posts and would be used for varsity practice only. Around this field would be a quarter mile grass track. The second and third fields would have portable or removeable posts and double markings for football and soccer; and the fourth field, also with removeable posts, would be marked for football and field hockey.
3. Eight outdoor tennis courts.
4. Grading and seeding of entire west area of the high school.
5. Access of water necessary to keep football fields in usable shape.
6. Adequate fencing to insure the protection of fields once they are graded, seeded and watered.
7. Proper storage area on the athletic field for physical education instruction equipment, varsity equipment, water, and first aid station.
8. Outdoor archery target range.

Various options concerning various areas for the middle and senior high school outdoor physical education facilities are shown in Figures VII-3 through 6.

Improvements and upgrading of the present facilities in Sylvester field itself were highly recommended by the coaches of football and track. The necessary work that is to be done with the track, concession stands, and so forth, though it is part of the outdoor facility, is not covered within the scope of this priority list. It seems necessary to improve

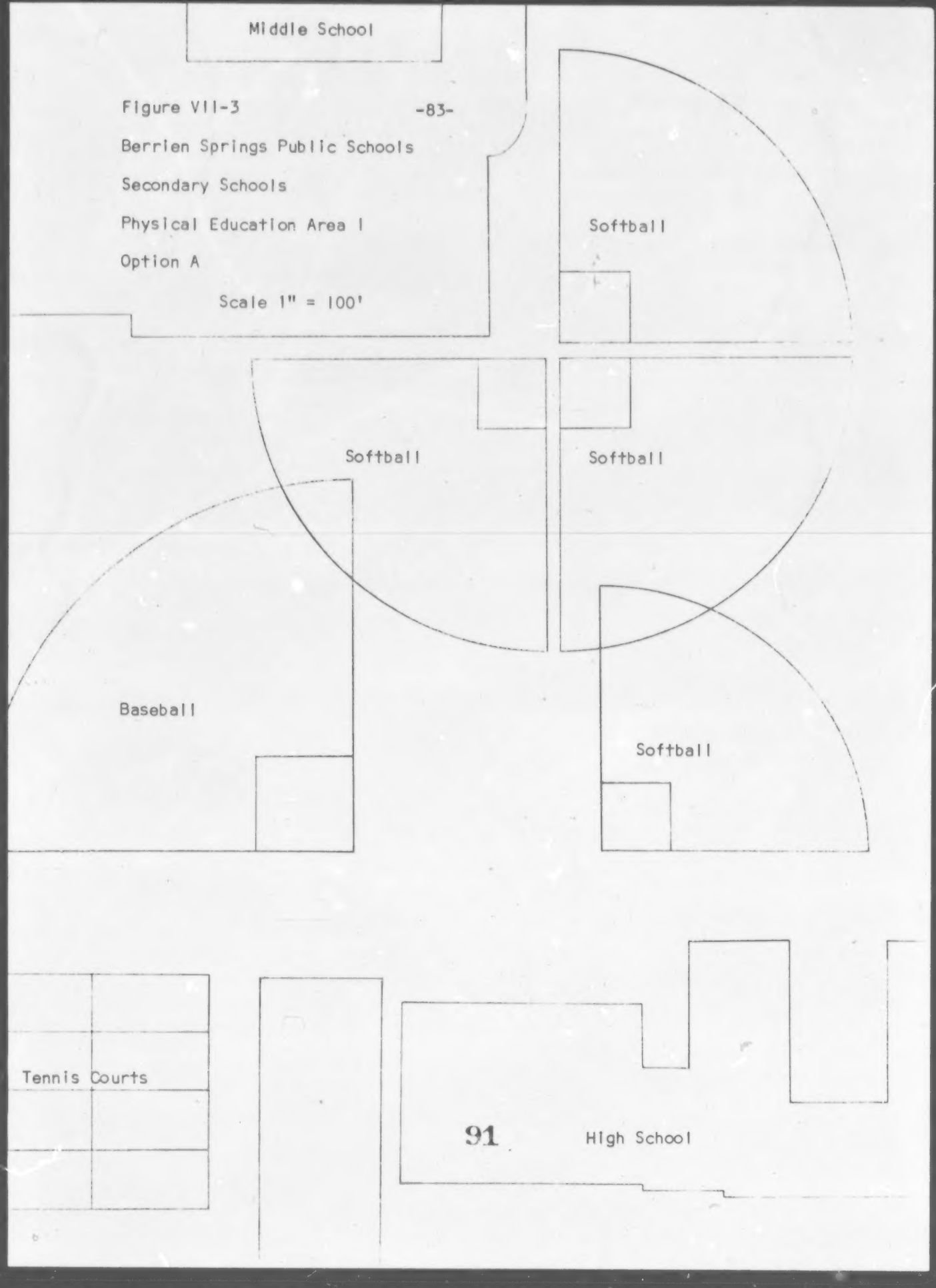


Figure VII-3

-83-

Berrien Springs Public Schools

Secondary Schools

Physical Education Area I

Option A

Scale 1" = 100'

Figure VII-4

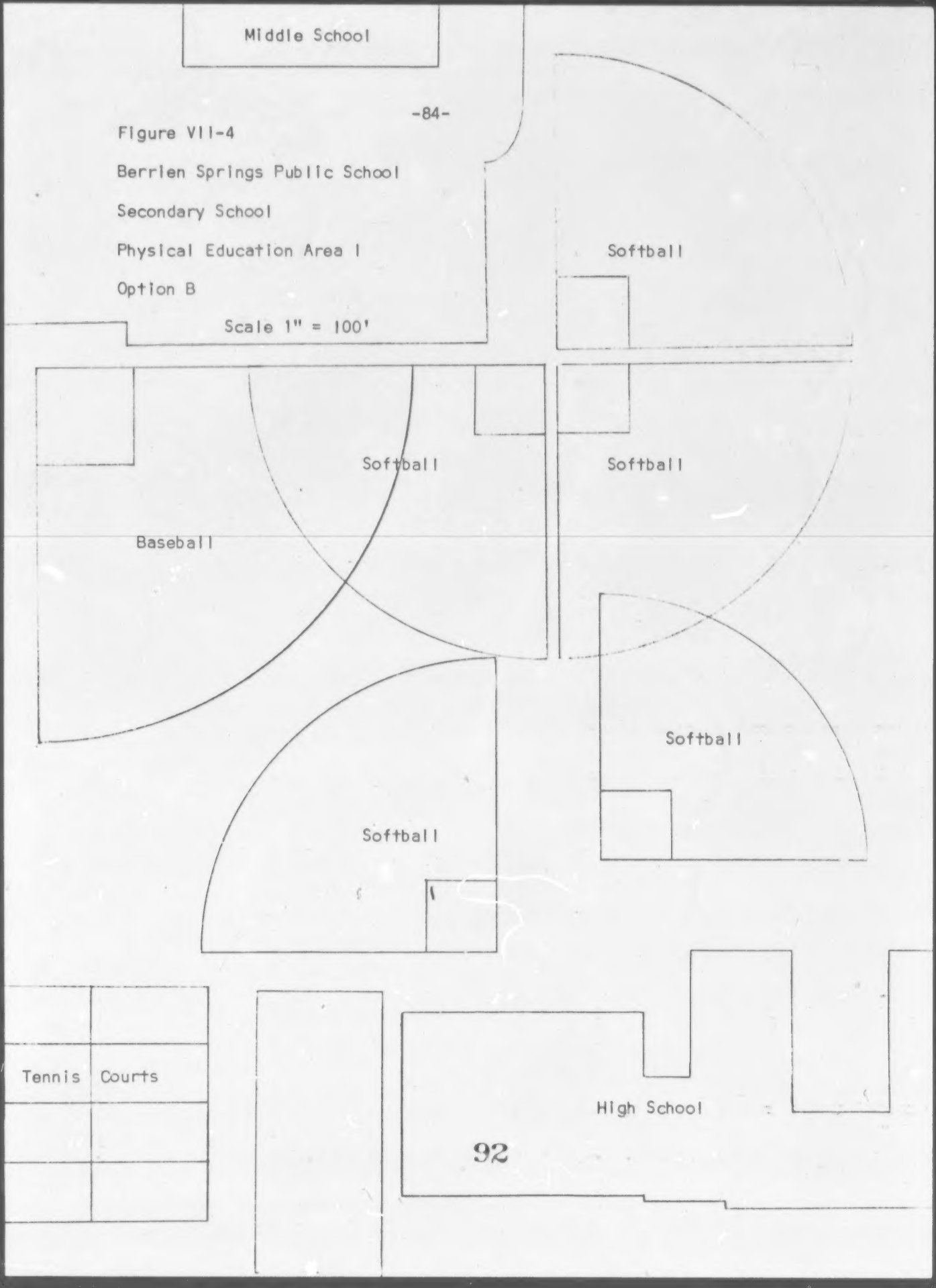
Berrien Springs Public School

Secondary School

Physical Education Area I

Option B

Scale 1" = 100'



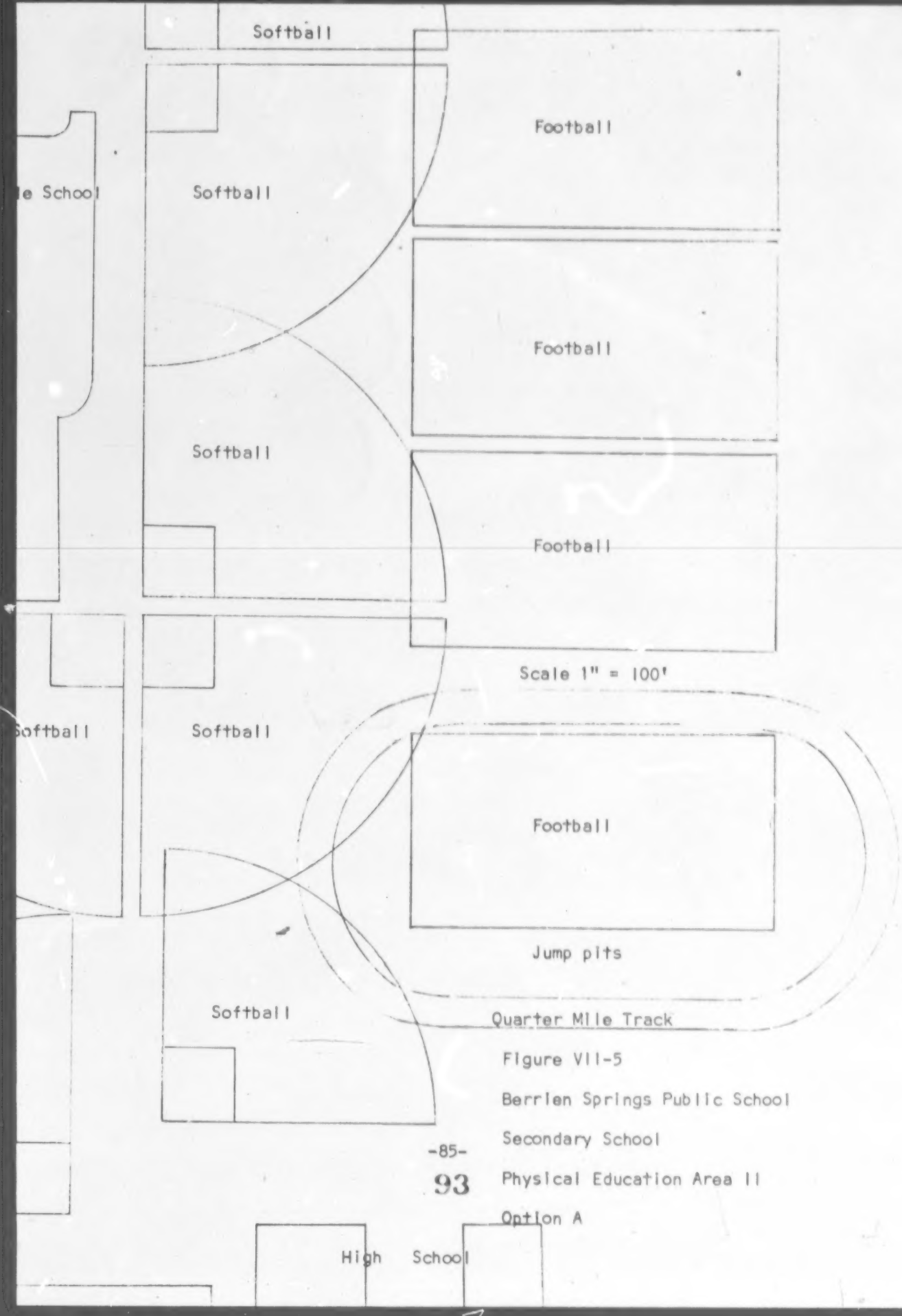


Figure VII-5

Berrien Springs Public School

Secondary School

Physical Education Area II

Option A

Figure VI.-6

Berrien Springs Public Schools

Secondary Schools

Physical Education Area II
Option B

Scale 1 = 100'

and upgrade many of the facilities at Sylvester to bring them into safe and usable condition.

The administration of both the middle school and high school and the physical education instructors feel the need for more free exercise and/or obstacle course areas. Therefore, it is highly recommended that an obstacle course and/or free exercise area with various kinds of apparatus be established near each school. This area would be used for exploration, physical fitness, obstacle races, as well as general recreation.

CHAPTER VIII

LAND-UTILIZATION OPTIONS: GENERAL

To determine the general needs and possible uses of the school grounds, suggestions from several district employees were utilized. Informal discussions with personnel at all levels yielded valuable information. An open-ended survey was conducted to determine the desires of the various administrators for the possible options to be considered. The items of highest priority were additional class space, environmental studies center, and elementary recreation areas. Space for these items were included in the options developed in the study. The results of the survey are listed in Appendix K.

GROUNDS

There are areas of the school grounds that have a problem with standing water during several months of the school year. The most troublesome areas are those on the playground of Mars Elementary School. It is virtually impossible for supervisory personnel to keep the children out of the large lakes of water during the recess periods. It is suggested that some sort of drainage system connected with the storm sewer which runs along Sylvester Avenue should be installed on the southwest part of the Mars playground. A drainage system from the northeast section of the Mars playground could be connected with the storm sewer on Mars Street.

Another area with much standing water is the vacant lot directly across the street from the bus garage. This area could be filled, graded, and drained to the storm sewer on Sylvester Avenue.

None of the paved roads, drives,or parking areas have curbs or other restraining barriers. This permits motor vehicles to leave the paved area and enter the play and recreation areas. This brings damage to the turf and presents a serious safety hazard when children are present on the grounds.

It is recommended that all roads and driveways on the campus be bounded by standard-sized curbs and that all parking lots have curbs or other barriers installed on the perimeter. It is essential that all vehicles be restrained from entering any play or recreation area.

At present there is a minimum of fencing or other security measures on the campus. This presents a twofold problem. First, there is very little protection from vandalism for buildings and equipment. Buses are parked in an open lot and are an easy target for any passerby. Second, there is the possibility that the school district would be held liable for injuries to children who play on the school grounds after school hours. The playground equipment near the elementary school may be considered as an "attractive nuisance" and should be secured from after-school use. The district may wish to investigate alternative methods of fencing the school grounds.

The grounds on the west side of the high school building also need attention. This is currently an unimproved dirt area which is dusty in dry weather and muddy in wet weather. Service equipment and delivery trucks frequently use this area. It should be graded and paved with

proper barriers installed. It may also be necessary to install a retaining wall to prevent soil erosion to the west.

The entire grounds of the school system need landscaping. Some play areas have a grade variation of up to two feet which results in limited utilization. It is recommended that all play areas be graded and seeded.

The matter of esthetics should also be considered. The buildings and nearby grounds present a rather barren appearance. Consideration might be given to the development of flower beds and plantings of decorative shrubs and trees. This would develop a school plant that would be beautiful as well as functional.

Additional suggestions for the improvement of the grounds are contained in chapter VI, Development of the Biosphere. The beautification and development of the campus grounds will no doubt require the employment of additional personnel. Additional equipment and storage area will also be needed. A new storage building, measuring 40' x 80' or 40' x 100', may be required to provide adequate space for grounds equipment and supplies, as well as general supplies. This building could be located adjacent to or across the street from the bus garage.

SPECIAL EDUCATION

The Berrien Springs Public Schools serve as a center for hearing-impaired children for a large area of southwestern Michigan. Enrollment in this program is not stable and may fluctuate to a great degree from year to year. It is desirable to integrate these children into the

regular classrooms as much as possible. It is recommended that a hard-surfaced site for a portable classroom be provided at each school and that four such sites be provided at Sylvester School. When not in use for the hearing-impaired program these sites could be used as hard-surfaced play areas.

It is important to place these where they will not interfere with regular playground and traffic patterns. For this reason, it is recommended that the current portable classroom at the Mars School be moved to a position at the southernmost corner of the building. This would allow a clear line of vision for supervisory personnel and put the play equipment near the southeast fence back into use.

TRANSPORTATION

It appears that the traffic patterns throughout the school district property do not cause serious problems. Buses are able to load and unload without causing safety hazards. However, there is some congestion at Mars School. While there are seven buses to load, only three can be in position at a time. This problem could be remedied if the west drive were straightened to run parallel with the school to the end of the building and then turned to approach the street at a right angle. Both the entry and exit should be widened to provide easier turning for the buses.

The entry drive should be at least fifteen feet from the building with an eight-foot sidewalk. It is essential to have a barrier between the sidewalk and the drive. A sidewalk may also be placed along the

exit drive to facilitate loading and unloading in that area. With these minor alterations it should be possible to accommodate at least five buses at a time.

The parking lot at Mars School is inadequate. It is recommended that the Mars parking lot be extended west to the power poles. As previously mentioned, this lot should have a barrier around the perimeter to prevent vehicles from entering the playground. If the high school expands, it may be possible to join the Sylvester parking lot with the high school lot. Again, all parking lots should have primeter restraining barriers. The recommendations for Mars School are shown in Figure VII-1 on page 79 of this report.

HIGH SCHOOL EXPANSION

The facilities of the high school do not provide sufficient space for the educational program. Consideration should be given to the expansion of the building. Figures VIII-1 and VIII-2 provide options for possible additions. These alternatives are presented here in order to forestall usage of this land for other purposes. Detail study would have to be given to many factors before the actual plans for building additions could be finalized.

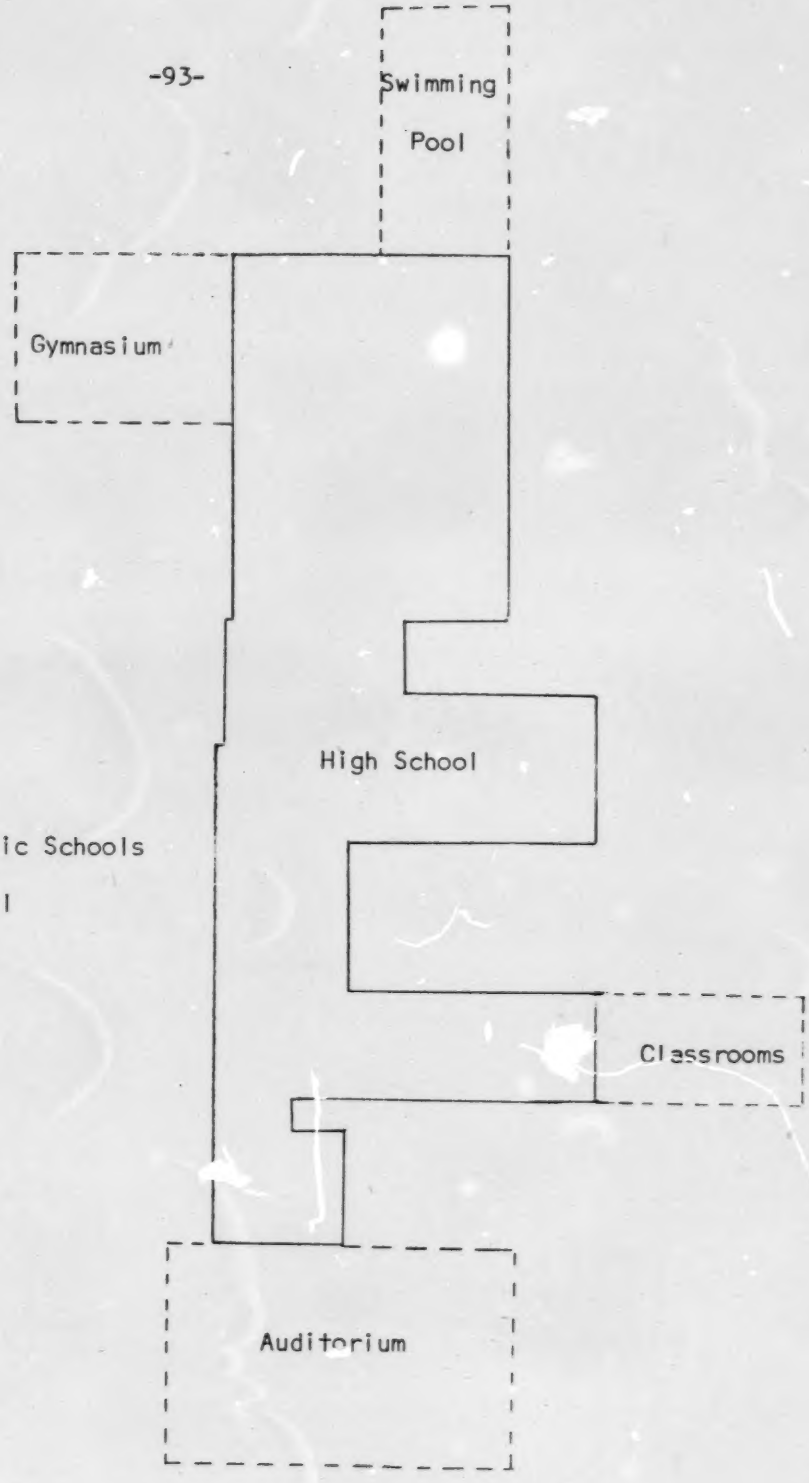


Figure VIII-1

Berrien Springs Public Schools

Projected High School

Additions,

Options A

Scale 1" = 100'

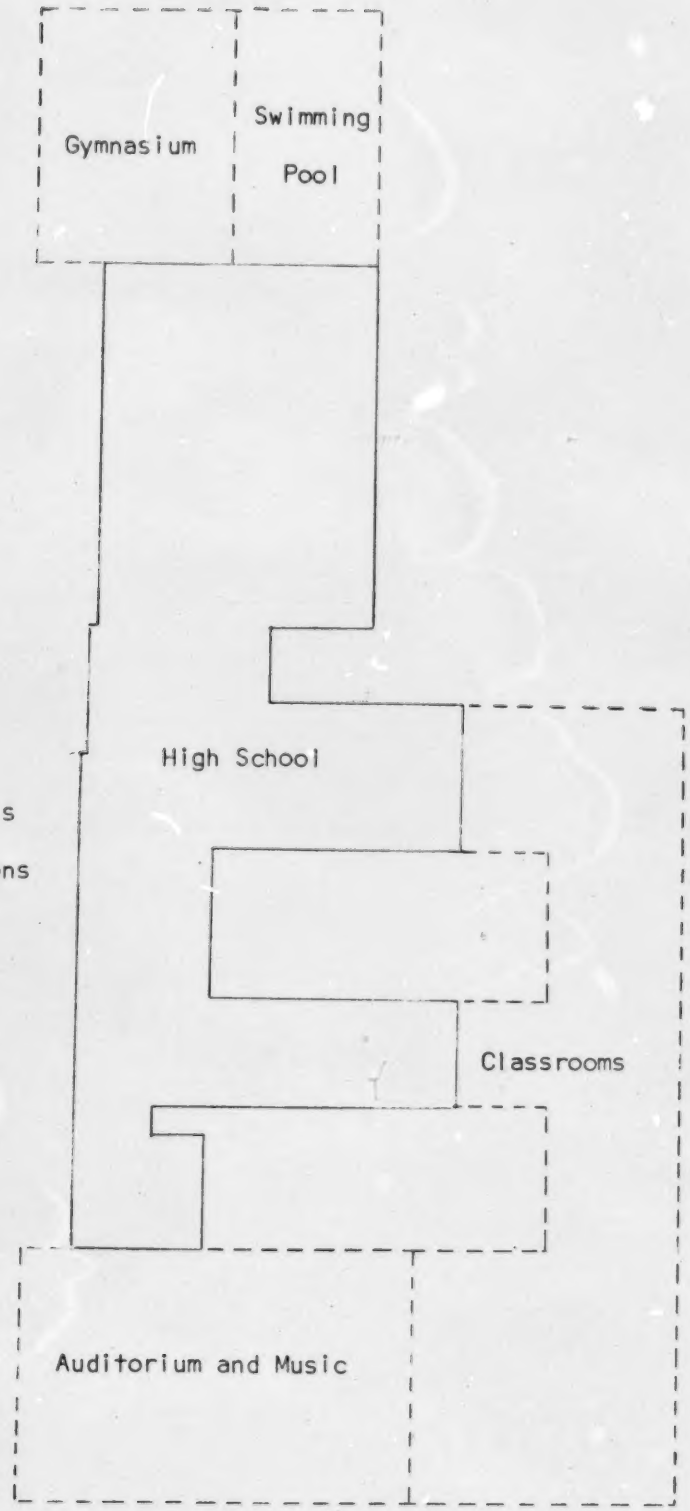


Figure VIII-2

Berrien Springs Public Schools

Projected High School Additions

Options B

Scale 1" = 100'

CHAPTER IX

CONCLUSIONS AND RECOMMENDATIONS

The purpose of the study was to develop land-utilization options for the present holdings of the Berrien Springs Public Schools. In order to base these proposed options on facts and observable evidence, four sub-studies were conducted; one dealing with educational goals, one with enrollment projections, one with present school site, and one with the educational program. On the basis of the data obtained in these sub-studies, land-utilization options in three areas were developed; the biosphere, physical education, and general. The conclusions of the sub-studies and land-utilization options are summarized in the following sections.

EDUCATIONAL GOALS

A sixty-five item questionnaire covering common educational goals and specific local questions was constructed and distributed in the Berrien Springs Public School District to students, staff members, and the community. There were 1093 surveys returned. The results indicate the respondents seem to desire more emphasis on affective areas, vocational skills, and the biosphere. The results showed academic goals to be highly important to those responding and indicated that the Berrien Springs Public Schools were achieving the academic goals at a high level. Expanded use of school property seems desired, with possible support

for construction of a swimming pool and an auditorium for school and community use.

ENROLLMENT PROJECTIONS

The K-12 enrollment patterns for both public and non-public schools are presented for the years 1962 through 1974. By utilizing actual and extrapolated live birth and enrollment data and a transition analysis (regression) projection methodology, 1988 has been identified as the year when the Berrien Springs Public School District elementary enrollment will increase by approximately 600 over the 1974 enrollment. Data from two additional studies support this conclusion. This would therefore indicate a need for an additional elementary school facility by the year 1988.

It is recommended that the school district administration give consideration to providing short-range pupil enrollment projections utilizing the transition analysis (regression) projection methodology. This method has been identified as being a reliable technique for short-range (8 years) pupil enrollment projections. This would provide for more reliable planning data.

SCHOOL SITE

The school site is not adequate for the present enrollment and provides no room for the future addition of extra elementary schools. The site is 13.36 acres below the recommended area. All land is not usable, some being occupied by temporary buildings presently made available for county-wide educational programs.

EDUCATIONAL PROGRAM

The educational programs of the Berrien Springs Public Schools are housed in two elementary schools, a middle school, and a high school. The curricula are designed to meet the goals of Michigan education. The limited physical facilities of the high school and the underdeveloped school-district outdoor facilities restrict the development of a well-rounded educational program.

LAND-UTILIZATION OPTIONS: BIOSPHERE

A well-designed program of campus-beautification, landscaping, tree-planting, and site development, as suggested in this study, can contribute both to the educational program and the ecological balance of the land. The costs involved in this program are not large and constitute sound investments.

LAND-UTILIZATION OPTIONS: PHYSICAL EDUCATION

Outdoor physical education facilities have to be constructed for the newly relocated middle school. Since this school is in close proximity with the high school, many physical education facilities may be shared between the two schools. Additional outdoor physical education facilities are necessary at the Sylvester Elementary School, and the outdoor play facilities at Mars Elementary School should be improved.

LAND-UTILIZATION OPTIONS: GENERAL

There are several possibilities for the better use of school district property. A number of areas have a problem with standing water during

much of the year. A drainage system could be connected with existing storm sewers. Paved roads and parking lots need to have curbs or other restraining barriers to prevent motor vehicles from entering the grounds. Additional parking space is needed at Mars and Sylvester Schools and a paved roadway could be used to the rear of the high school. The entire school grounds is in need of landscaping and general beautification with flower beds and decorative shrubs. Because of the great variability of enrollment in the hearing-impaired program, some consideration should be given to a hard-surface site for portable classrooms at each school. These might be used as play areas when the portables are not needed. A recommendation was made for a slight change in the bus drive at Mars School as well as enlargement of the parking lot.

Figure IX-1, a transparency and a map, shows the present school site and the conceptual plan for site development. Options for general site extension are presented in Figure IX-2. Both site A and site B are generally suitable sites and both sites may be considered for long-range planning. If only one site may be acquired, preference should be given to site A.

RECOMMENDATIONS

On the basis of the foregoing descriptions and analysis, the authors of this study would like to present the following recommendations to the Board of Education:

1. That consideration be given to adapting the conceptual plan for site development as presented on the aerial photo overlay.

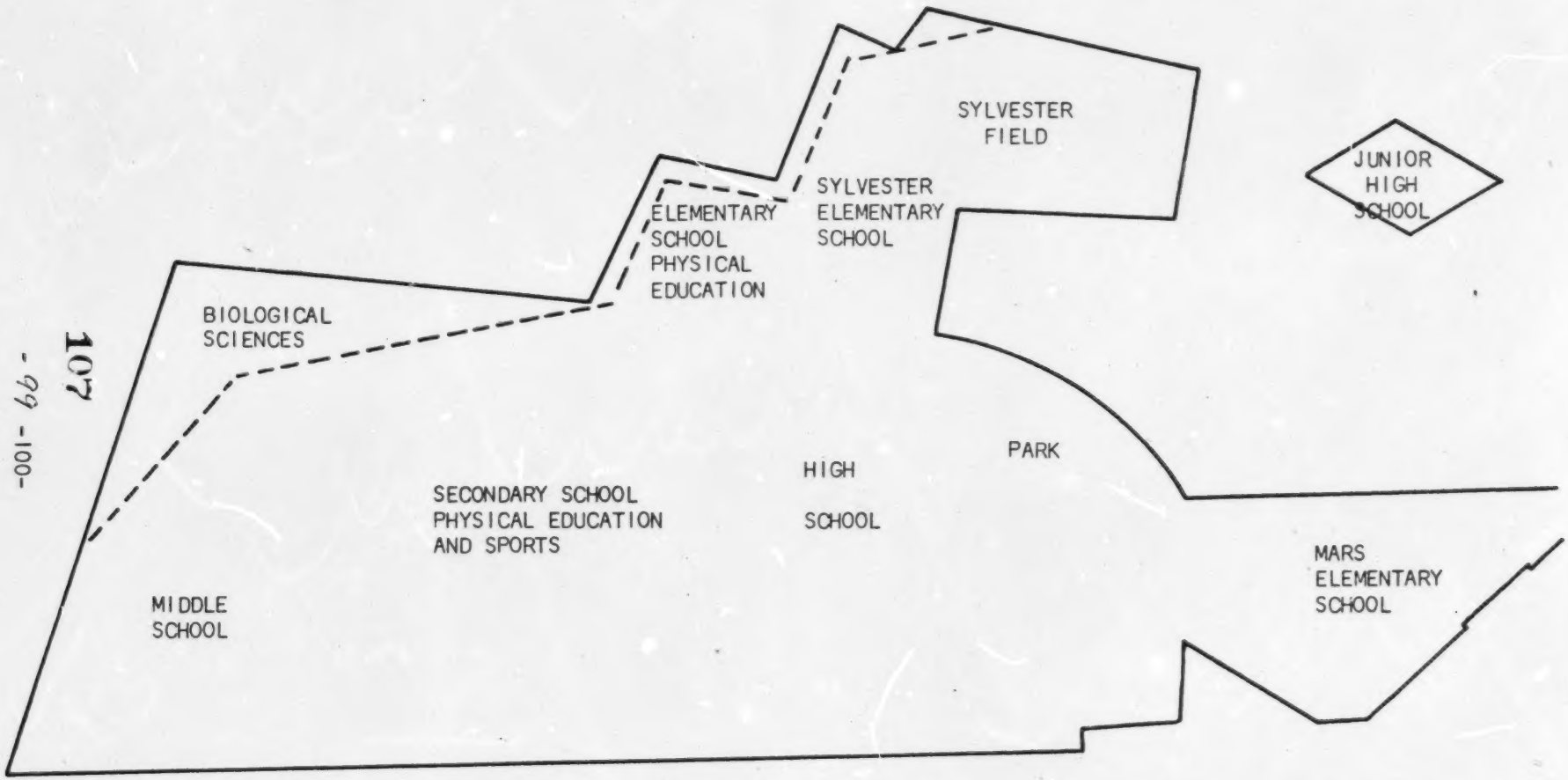
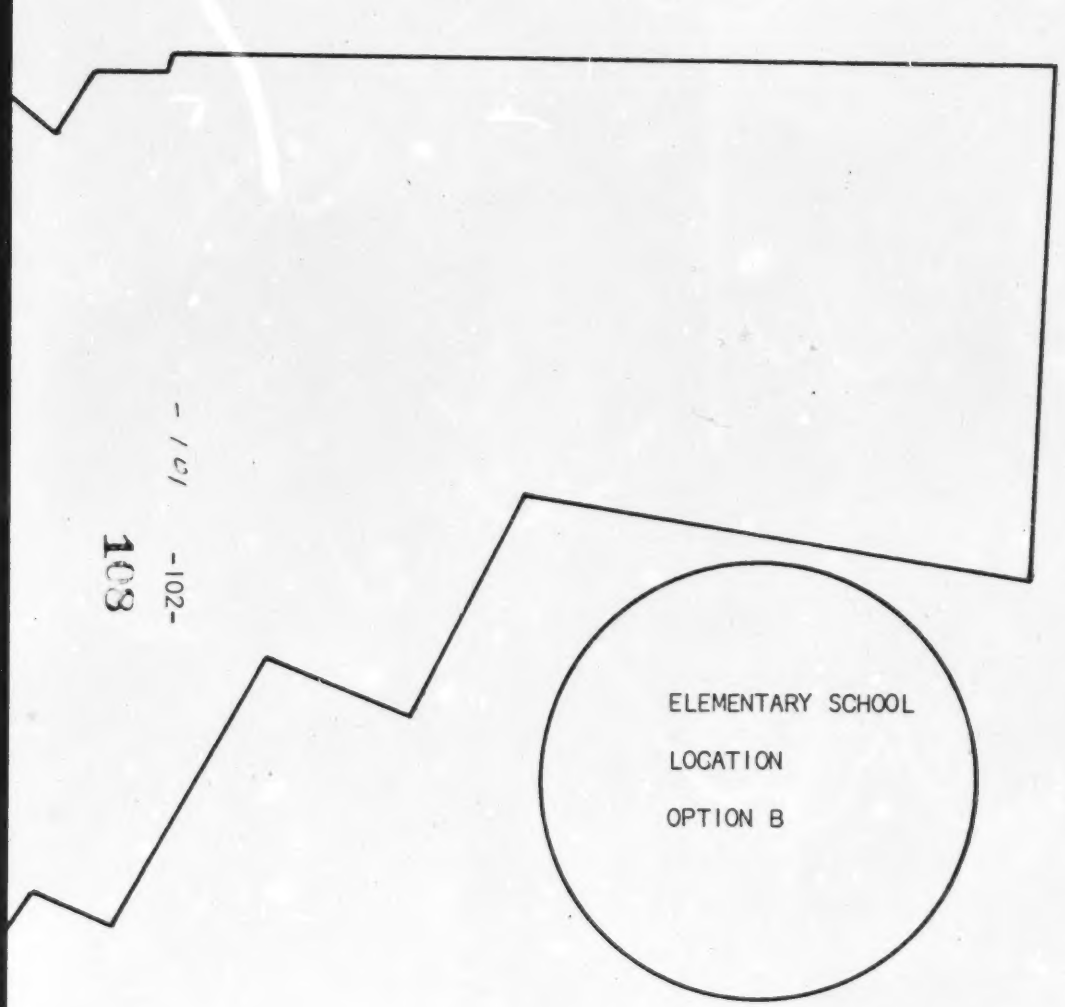


FIGURE IX-1
BERRIEN SPRINGS PUBLIC SCHOOL
CONCEPT OF SPACES

AU-CSSE - 1975 - P21



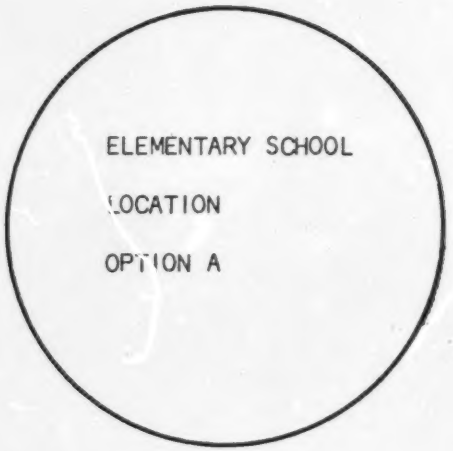


FIGURE IX-2
BERRIEN SPRINGS PUBLIC SCHOOL
PROPOSED LOCATION OF FUTURE
ELEMENTARY SCHOOL/S

/ I-CSSE - 1975 - P21

2. That the conceptual plan be expanded into a master plan for the school district.
3. That additional land, about thirty acres adjacent to the present site, be acquired for a planned third elementary school and general educational usage.
4. That the school district initiate the ecological preservation of the City of David swamp.

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APPENDICES

A	Berrien Springs Public Schools (Data Sheet)
B	The Philosophy of Education
C	Objectives
D	Community Survey for the Berrien Springs Public Schools
E	Response Percentages for Questionnaire
F	Response Percentages for Goal Areas: Part II and III of Questionnaire and Goal Area Percentage Averages
G	The School Site
H	Curriculum Senate Information Sheet
I	1974-75 Secondary Academic Curriculum
J	Adult Education
K	Berrien Springs Public Schools: Administrator's Needs List
L	Letter Appointing Committee Members

APPENDIX A

11:240

BERRIEN SPRINGS PUBLIC SCHOOLS

Sylvester Avenue
Lee Auble, Superintendent
471-2891

The Berrien Springs School District is a fourth class district in the east central part of the county. 52 square miles. Approximately 11,000 population.

Financial Facts

State equalized valuation of the district		$38,837,086
Valuation per pupil		$17,470
General school operating millage		
Allocated millage	8.376	
Voted increase	11.4	
Debt Retirement Fund	7.0	
Building and Site Fund		
Total millage	26.776	
Total budget per year		$ 1,753,950

Salary Schedule
B.A. $8,200 to $12,300
M.A. $8,650 to $13,321

Student Membership

Elementary Enrollment	1,165
Secondary Enrollment	873
Special Education	136
Total	2,174
Adult Education Enrollment	49

Number of Employees

Administration	7
Directors	3
Teachers	127
Supporting Staff	71
	208

Board of Education

Peter Rudell, President	471-3063
George Bennett, Vice President	473-3024
William Robinson, Secretary	471-7079
Ed Stone, Treasurer	471-1458
James Betchek, Trustee	471-3704
Dr. Weldon Cooke, Trustee	471-5341
William Boyd, Trustee	471-7886

Regular meetings of the Board of Education are held the 2nd Thursday of each month in the Sylvester Elementary School.

Central Administration

Lee Auble, Superintendent	471-2891
Jon Schuster, Assistant Supt.	471-2891
Edwin Racine, Community School Dir.	473-1621
Lola Smith, Libraries Media Dir.	471-7851
Bruce Taiclet, Athletic Dir.	473-1621
Ishmael Olivarez, Migrant Prog. Dir.	473-4181

Berrien Springs Senior High	473-1621	Gerald Craig, Principal
Sylvester Avenue	471-7251	Robert Fein, Asst. Principal
Built 1960		Grades 9-12
		Enrollment 564
		Teachers 32
Berrien Springs Junior High	471-5631	Roy Rennhack, Principal
North Cass Street		Grades 7-8
Built in 1928		Enrollment 339
		Teachers 18
Mars Elementary	473-6111	Robin Campbell, Principal
Mars Street		Grades K-3
Built 1952		Enrollment 685
		Teachers 29
Sylvester Elementary	471-2891	Alfred Berg, Principal
Sylvester Avenue		Grades 4-6 & Deaf Education
Built 1966		Enrollment 573
		Teachers 43

School Services

Building and Grounds	471-2891	Gail Doll, Supervisor
16 Employees		
Food Services	473-1621	Gertrude Pfeiffer, Supv.
8 Employees		
Health Services	471-2891	Bonita Paustian, Supv.
1 Employee		
Transportation	471-2891	LaVern Ammerman, Supv.
15 Buses		

11-240
BERRIEN SPRINGS PUBLIC SCHOOLS
Sylvester Avenue
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APPENDIX B

THE PHILOSOPHY OF EDUCATION

The purpose of the Berrien Springs Public Schools is to provide quality educational opportunities for each student, consistent with the financial resources available, in order that those who participate in our programs might enjoy productive, satisfying, and happy lives. Each element within our program of instruction is designed to maximize the acquisition of knowledge, the development of useful skills, and the attainment of positive social values.

STATEMENT OF VALUES

1. We believe that every person is important, has innate worth, and is endowed with human dignity.
2. We accept the fact that each person is unique.
3. We accept the fact that children are citizens and that all American citizens are born free and equal.
4. We believe that every person has a right to the opportunity to explore and to reach his potential.
5. We believe that a public school system should provide opportunities for its citizens, and not be totally limited to its youth.
6. We believe that the schools must promote the democratic ideal and its processes.
7. We believe that close cooperation between the home and school is essential.
8. We believe that those children who are unable to profit from or participate in established educational programs must be afforded opportunities suited to their unique needs.

APPENDIX C

OBJECTIVES

The instructional program of the Berrien Springs Public Schools shall be established and administered in such fashion as to reflect the following objectives:

1. To educate each student toward the limits of his capacity, recognizing individual differences, limitations, objectives, and values.
2. To provide equal educational opportunity.
3. To develop skills in the fundamental processes and tools of learning.

   To develop the ability to think, judge, and plan independently.
5. To develop a capacity for critical and analytical thinking.
6. To develop an appreciation of moral, social, and ethical values.
7. To instill the principles of democratic living and democratic responsibility.
8. To instruct in patriotic practices and to develop a love of country.
9. To establish an educational environment conducive to the health and welfare of each student
10. To create a desire for self-improvement through advanced study.
11. To develop skills for the prudent use of leisure time.
12. To promote physical activities enabling the development of strong and healthy bodies.

APPENDIX D

Community Survey for the Berrien Springs Public Schools

I. Please check the boxes that apply to you.

1. I am

	Elementary	Jr. High	Sr. High
( ) a. student in	( )	( )	( )
( ) b. teacher or administrator in ..	( )	( )	( )
( ) c. other staff member	( )	( )	( )

( ) d. I have ___ children in Berrien Public Schools.
( ) e. I have school age children but none in public school.
( ) f. I have no children of school age.

2. Sex: Male ( ) Female ( ) 3. Age on last birthday

4. I completed the following level of formal education: ( )-8th grade ( )-High School ( )-1-2 years of college ( )-4 years of college ( )-Post-college work

II. Please read the statements below and check the 8 goals you think are most important for our schools.

III. Please read the statements below and check the 8 goals you feel the schools are doing the best in attaining.

The statements below complete the phrase "Our schools should prepare our students to . . ."

___ 5.	know basic information in subject matter areas (science, math, etc.)	22.___
___ 6.	develop basic skills in communication, computation and inquiry.....	23.___
___ 7.	be ready to enter college.....	24.___
___ 8.	appreciate moral, social, and ethical values.....	25.___
___ 9.	develop traits of persistence and self-discipline.....	26.___
___10.	develop patriotic practices and love of country.....	27.___
___11.	develop positive, constructive attitudes about human differences....	28.___
___12.	understand the needs and responsibilities of family life.....	29.___
___13.	understand and examine his own capacities, interests, and goals.....	30.___
___14.	be ready for technical training after high school.....	31.___
___15.	be ready for jobs after high school.....	32.___
___16.	develop and maintain good health.....	33.___
___17.	develop skills for prudent use of leisure time.....	34.___
___18.	develop a desire to maintain a good fitness level.....	35.___
___19.	develop skills and appreciation in music, art, drama, etc.....	36.___
___20.	appreciate, protect, and improve our local natural environment.....	37.___
___21.	other_____	38.___

APPENDIX D (Continued)

IV. This section will make several statements and ask you to react to them. Circle a 3 if you agree, 2 if you have no opinion or 1 if you disagree.

		Agree	No Opinion	Disagree
39.	Our school property is used enough for community recreation needs.	3	2	1
40.	Our schools should have an outdoor environmental studies center.	3	2	1
41.	Berrien Springs needs a combined community-school park.	3	2	1
42.	There is too much emphasis on varsity sports in Berrien Springs.	3	2	1
43.	Our school property should be beautiful as well as functional.	3	2	1
44.	The school does enough for the physically, mentally, and emotionally handicapped.	3	2	1
45.	I would attend an expanded adult-education or enrichment program in the evenings.	3	2	1
46.	An area Vocational-Technical Center should be constructed.	3	2	1
47.	Students should make a vocational choice before leaving high school.	3	2	1
48.	More school land should be developed and used for recreation.	3	2	1
49.	We need a large auditorium for school and community use.	3	2	1

MORE EMPHASIS SHOULD BE PLACED ON THE FOLLOWING ACTIVITIES:

65. In this space please list any facilities you think our school system lacks. How would you like to see us use our school land?

50.	agriculture	3	2	1
51.	art	3	2	1
52.	athletics	3	2	1
53.	biology	3	2	1
54.	camping	3	2	1
55.	clubs	3	2	1
56.	dramatics	3	2	1
57.	environment	3	2	1
58.	gardening	3	2	1
59.	intramurals	3	2	1
60.	job skills	3	2	1
61.	music	3	2	1
62.	nature study	3	2	1
63.	outdoor recreation ..	3	2	1
64.	other_____	3	2	1

CSSE - 2/3/75

Number of Questionaires Returned

Total Number of Respondents	-	1,093
Number of Students	-	864
Number of Staff	-	99
Number of Community	-	130

APPENDIX E

RESPONSE PERCENTAGES FOR QUESTIONNAIRE

The following responses for sections II and III reflect the frequency of being chosen among the top eight desired (questions 5-21) and the top eight attained (questions 22-38) goals.

	Students	Staff	Community	3-Group Average
5	69.7	73.7	82.3	75.2
6	37.4	73.7	67.7	59.6
7	65.3	22.2	42.3	43.3
8	41.9	78.8	71.5	64.1
9	53.8	81.8	70.0	68.5
10	29.4	40.4	40.0	36.6
11	52.2	70.7	60.8	61.2
12	42.9	46.5	55.4	48.3
13	60.7	84.8	72.3	72.6
14	39.2	17.2	33.8	30.1
15	71.9	47.5	40.8	53.4
16	40.4	26.3	36.2	34.3
17	26.7	40.4	22.3	29.8
18	45.2	29.3	23.8	32.8
19	33.5	33.3	38.5	35.1
20	46.9	36.4	36.2	39.8
21	10.5	3.0	8.5	7.3
22	78.5	89.9	62.3	76.9
23	43.7	65.6	41.5	50.3
24	48.8	70.7	48.5	56.0
25	34.1	34.3	19.2	29.2
26	39.0	27.3	22.3	29.5
27	23.5	27.3	25.4	25.4
28	35.2	36.4	29.2	33.6
29	32.1	28.3	14.6	25.0
30	45.5	49.5	39.2	44.7
31	35.3	41.4	40.0	38.9
32	52.7	50.5	42.3	48.5
33	38.5	32.3	32.3	34.4
34	27.2	21.2	16.2	21.5
35	48.9	42.4	44.6	45.3
36	46.1	48.5	39.2	44.6
37	27.1	14.1	16.2	19.1
38	6.9	4.0	4.6	5.2

APPENDIX E (Continued)

RESPONSE PERCENTAGES FOR QUESTIONNAIRE (Continued)

The following responses for section IV reflect the percentage of each population choosing the indicated responses.

Question	Students			Staff			Community			3-Group Average		
	Agree	No Opinion	Disagree	Agree	No Opinion	Disagree	Agree	No Opinion	Disagree	Agree	No Opinion	Disagree
Response	3	2	1	3	2	1	3	2	1	3	2	1
39	29.4	23.6	45.7	40.4	20.2	33.3	30.0	22.3	40.8	31.8	22.0	39.9
40	58.5	27.2	12.9	61.6	22.2	10.1	40.0	32.3	19.2	53.4	27.2	14.1
41	46.8	32.5	19.1	45.4	30.3	17.2	41.5	25.4	26.9	44.6	29.4	21.1
42	14.1	18.3	66.2	44.4	17.2	32.3	33.1	25.4	33.8	30.5	20.3	44.1
43	78.8	16.1	3.9	86.9	3.0	5.0	73.1	13.8	6.2	79.6	11.0	5.0
44	44.0	30.6	24.3	26.3	15.2	51.5	44.6	29.2	18.5	38.3	25.0	31.4
45	19.1	48.6	30.0	40.4	35.4	17.2	39.2	27.7	26.2	32.9	37.2	24.7
46	41.8	41.4	15.0	63.6	16.2	13.1	52.3	19.2	21.5	52.6	25.6	16.5
47	47.6	32.3	19.0	29.3	12.1	52.5	36.9	15.4	40.8	37.9	19.9	37.4
48	63.3	21.4	13.9	54.5	23.2	16.2	30.8	26.2	36.9	49.5	23.6	22.3
49.	70.9	15.1	12.9	71.7	9.1	13.1	40.8	20.8	30.8	61.1	15.0	18.9
50	39.9	40.9	15.1	46.5	26.3	11.1	53.8	20.0	9.2	46.7	29.1	11.8
51	40.7	34.5	21.2	45.4	31.3	9.1	31.5	28.5	16.2	39.2	31.4	15.5
52	64.9	17.8	14.8	14.1	13.1	54.5	17.7	15.4	40.8	32.2	15.4	36.7
53	32.9	41.6	21.8	35.4	39.4	7.1	40.8	30.0	7.7	36.4	37.0	12.2
54	51.0	28.7	17.5	23.2	38.4	20.2	20.8	28.5	24.6	31.7	31.9	20.8
55	56.8	27.8	12.7	19.2	38.4	24.2	11.5	31.5	30.0	29.2	32.6	22.3
56	36.6	38.7	20.8	39.4	31.3	13.1	24.6	30.8	19.2	33.5	33.6	17.7
57	55.5	29.3	12.4	73.7	9.1	3.0	55.4	19.2	7.7	61.5	19.2	7.7
58	30.9	40.6	24.4	44.4	29.3	11.1	50.8	18.5	10.8	42.0	29.5	15.4
59	46.0	34.1	16.0	44.4	23.2	15.2	27.7	28.5	20.0	39.4	28.6	17.1
60	77.4	14.9	5.4	76.8	10.1	2.0	69.2	11.5	3.8	74.5	12.2	3.7
61	34.1	38.5	24.1	49.5	25.2	11.1	40.8	25.4	12.3	41.5	29.7	15.8
62	51.7	31.6	12.7	56.6	24.2	2.0	53.8	18.5	7.7	54.0	24.8	7.5
63	77.9	13.4	6.1	58.6	18.9	9.1	43.8	26.2	11.5	60.1	19.5	8.9
64	28.0	11.0	3.3	6.1	1.0	2.0	10.8	13.8	1.5	15.0	8.6	2.3

APPENDIX F

RESPONSE PERCENTAGES FOR GOAL AREAS: PART II AND III OF QUESTIONNAIRE

Area	Questions Indicating Desired Goals	Questions Indicating Goals Attained
A. Cognative	5, 6, 7	22, 23, 24
B. Affective - Personal	8, 9, 10, 13	25, 26, 27, 30
C. Affective - Interpersonal	11, 12	28, 29
D. Vocational	14, 15	31, 32
E. Health - Recreational	16, 17, 18	33, 34, 35
F. Arts	19	36
G. Biosphere	20	37

GOAL AREA PERCENTAGE AVERAGES

Area	Student		Staff		Community		Total Average	
	Desired	Attained	Desired	Attained	Desired	Attained	Desired	Attained
A. Cognative	57.4	56.9	56.6	75.4	64.1	50.8	59.4	61.0
B. Affect.-Pers.	46.4	35.9	71.5	35.1	63.5	20.4	60.5	30.5
C. Affect.-Inter.	47.4	33.6	58.6	32.3	58.1	21.9	54.7	29.3
D. Vocational	56.0	44.0	32.3	46.0	38.5	41.2	42.3	43.7
E. Health-Rec.	37.4	38.2	32.0	32.0	27.4	31.0	32.3	33.7
F. Arts	33.5	46.1	33.3	48.5	38.5	39.2	35.1	44.6
G. Biosphere	46.9	27.1	36.4	14.1	36.2	16.2	39.8	19.1

THE SCHOOL SITE

The selection of an adequate, well located, school site and its development is an integral part of school plant planning. Just as a building is designed to best accommodate a school program so may the development of a school site materially enrich such program. Just as a building is designed to provide for community use so may a site be developed. In addition there is a responsibility in relation to school sites involving the stewardship of public land so that the fundamental values of the land may be preserved.

The basic reason for a building design is the housing of the educational program, in like manner the basic reason for site development is to provide an outdoor environment conducive to better operation of such program. The first factor in site selection is the usability of a site as land for learning; the degree to which the site offers instructional possibilities including the retention or development of a biosphere conducive to instructional use.

Site selection is necessary for new building construction and site evaluation is necessary for proposed building additions or rehabilitation. With transportation readily available the factor of size is generally of more importance than location. Recommendations for site size for various grade levels are:

K–6	10 acres + one acre for each 100 enrolled
Middle School	20 acres + one acre for each 100 enrolled
Junior High School	20 acres + one acre for each 100 enrolled
Senior High School	30 acres + one acre for each 100 enrolled
Combined Jr.-Sr. High School	30 acres + one acre for each 100 enrolled

In densely populated areas such site sizes are unrealistic economically but every effort should be expended to acquire as much land as possible for both school and community use.

Care in site location must be taken if a serious transportation problem exists or if housing patterns in an area would result in a school largely segregated on racial, ethnic, or socio-economic lines.

Other factors for consideration include the availability of public utilities, the cost of land, and the existence of other public areas available for school use. In all cases site utilization should be studied and decisions made before any site is selected.

Assuming that an adequate site has been acquired the design for site development should be a part of the total plant planning. In many instances sites have been acquired but developed only as a building plot and thus most of the educational advantages that could accrue are lost.

In planning site development it should first be determined what natural features can be preserved and used. These features include natural surface elevations, natural water and natural vegetation on the site. Having made this assessment it follows that planning should emphasize the use of land and vegetation to improve the microclimate and natural biosphere of the site.

The Site as Educational Space

In the preceding paragraphs the element of size was outlined for various grade levels of administrative organization. Basically, these optimum sizes are calculated to provide sufficient space for both instructional and service operations of the school program and to make allowance for community use.

In the instructional area of operation the site has had long use as space for physical education and recreation. Numbers and sizes of various game areas have been defined. In many instances equipment specifications have also been established. One of the most complete references for this phase of planning is *Planning Areas and Facilities for Health, Physical Education and Recreation* published by the Athletic Institute, Merchandise Mart, Chicago, Illinois 60654. For the purpose of this bulletin only the space allocations shown on the following chart are included.

The goal of an adequate physical education program for all children is common at all educational levels. Site planning must therefore consider the provision for such space in adequate size and numbers.

Other portions of the educational program may also benefit from site activities if planned. In the science curriculum the natural and biological sciences can benefit from a grove of trees, a pond or stream, rock formations and other components of an outdoor laboratory. Chemistry and physics students can utilize these same components for experimentation in their respective fields. A benchmark establishing the latitude, longitude, and elevation of a point on the site can be used for a variety of activities in mathematics, physics, astronomy and allied sciences.

TABLE 1–GUIDE TO SPACE AND AREA NEEDS*

Type of Area	*Approximate Space Needs (in Square Feet)*			
	ELEM.	*JR. HIGH*	*SR. HIGH*	*Description of Facilities*
Play Lot	10,000	10,000	10,000	Provides such apparatus as a small climbing structure, sand box, slides, swings, tables, benches, drinking fountain, and open play space.
Apparatus	10,000	10,000	10,000	For lower elementary use such as slides, swings, jungle gyms, parallel bars, balance beams, etc.
Paved Area	30,000	64,000	64,000	All weather surface for basketball, tennis, skating, dancing, volleyball, badminton, etc.
Field Games	135,000	285,000	350,000	Space for horseshoes, softball, baseball, soccer, archery, football, ice hockey, modified golf, track, straight-a-way.
Quiet Activities	8,000	8,000	8,000	Dramatics, handicraft, music, quiet games, story telling council ring, fireplace, etc.
Water Play	5,000	5,000	5,000	Wading pool, spray pool. Add 20,000 for outdoor swimming pool.
Older Adult	4,000	4,000	4,000	Lounging, general sociability, benches, tables, and shade.
Garden	4,000	8,000	8,000	Children's flower and vegetable garden. Also science connected gardens.
Interscholastic Sports Area			522,720	Athletic field, stadium, baseball, football fields, running track, softball diamonds, practice fields, seating for games, parking areas.
"Park"	87,120	435,000	522,720	Picnic areas with fireplaces, benches, tables, walks, trails, parking, etc.
Driver Range			175,000	Driver Education Program
Plantings and Walks	25,000	40,000	70,000	Boundary and border plantings and walks serving the various sections.
TOTAL AREA	10 acres	25 acres	45 acres	Remaining part of these totals is taken up with buildings, drives, settings, parking, etc.

Art and drama departments can use natural formations of the school site terrain as outdoor studios and in some instances a small amphitheater can be developed.

Some communities require on-site ranges for driver education. When this condition exists such area can be integrated into the total site concept so that a variety of driving situations may be illustrated.

The most common service use of a site is for off-street parking both for school personnel and for the public. Parking areas should be so located as not to be a safety hazard and yet be readily accessible to the building. If possible, busloading areas and drives should be independent of automobile drives and loading areas. All schools require the delivery of supplies and the removal of trash and garbage and if possible a separate service drive and staging area is desirable.

School sites may also need to have on-site water supply or surface sewage treatment facilities. When this need is present such installations should be physically separated from areas of both student and adult use. It is required that proposed school sites be approved by the health department having jurisdiction if on-site water supply and/or sewage treatment and disposal is to be provided.

THE SITE AS RECREATIONAL SPACE

With the growing population in urban areas the amount of public land available for recreational activities is diminishing. The school site, developed for student physical education already has many features usable for recreation by both youth and adults. The additional development of picnic and trail areas can provide space for full community use. In some localities the school authorities and municipal authorities have jointly developed a school-park accessible and usable by all. Minor changes in building location and design can often make portions of such facilities available for non-school use.

THE SITE AS PUBLIC LAND

With the acquisition of a school site the owner assumes a stewardship obligation to prevent deterioration and to revitalize the land if necessary. Natural terrain should be left undisturbed as much as possible in order to retain normal erosion patterns and growth. Judicious planting of trees and shrubs can control drifting of snow and thus make much of the site useable on a full year basis. In like manner such plantings can control sun glare and act as both thermal and acoustical insulation where desired.

Valuable assistance for site planning is available through both the Michigan Department of Natural Resources and the United States Department of Agriculture.

Although discussed separately the design for site development should be integrated with the total planning process. Certain site conditions may dictate the location of a building and site design will be dependent upon such location. In many instances the amount of land for complete development is not available and compromises must be made. Close cooperation between the school and other public agencies is advisable so that maximum benefits may be had from available land resources.

For a more complete outline of site utilization, "The Community School Site, A Laboratory for Learning" Bulletin #314 is recommended by the Michigan Department of Education.

SOURCE: Michigan Department of Education. School Plant Planning Handbook. Bulletin 412 (Rev.) January 1970.

BERRIEN SPRINGS PUBLIC SCHOOLS Superintendent's Office

September 24, 1973

Curriculum Senate Information Sheet

INDICATED BELOW ARE THE NUMBER OF CLASSROOM HOURS (ROUNDED OFF) ANNUALLY SPENT IN MANDATORY INSTRUCTION--
THAT WHICH EACH STUDENT (EXCEPTIONS HAVING ADMINISTRATIVE APPROVAL) MUST TAKE

	K	1	2	3	4	5	6	7	8	9	10	11	12
READING	131	580	522	218	174	116	131	XX	XX	XX	XX	XX	XX
MATHEMATICS	88	131	152	174	218	131	131	138	138	157	XX	XX	XX
WRITING/PENMANSHIP	88	44	29	29	XX	XX	XX	XX	XX	XX	XX	XX	XX
SOCIAL STUDIES	44	26	18	102	87	131	131	138	138	XX	XX	157	79
SCIENCE	44	18	31	102	78	131	131	138	138	XX	157	XX	XX
PHYSICAL EDUCATION	XX	18	18	18	21	21	26	138	138	157	157	XX	XX
ART	XX	26	26	26	23	23	26	69 XX	69 XX	XX	XX	XX	XX
VOCAL MUSIC	XX	26	26	26	26	26	26	XX	XX	XX	XX	XX	XX
SPELLING	XX	44	44	87	58	58	58	XX	XX	XX	XX	XX	XX
ENGLISH	XX	XX	XX	87	116	87	131	138	138	78	XX	157	157
LITERATURE	XX	XX	XX	XX	XX	XX	XX	138	69	XX	79	XX	XX
COMMUNICATIONS	XX	XX	XX	XX	XX	XX	XX	XX	69	78	XX	XX	XX
WRITING SKILLS	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	79	XX	XX

APPENDIX H

APPENDIX I

BERRIEN SPRINGS PUBLIC SCHOOLS Superintendent's Office

1974-75 SECONDARY ACADEMIC CURRICULUM

DIVISION OF LANGUAGE ARTS (MRS. TAICLET)

7th Basic English
7th Regular English
Reading Improvement
Communications (9)
Debate (9)
Creative Writing (9)
8th Basic English
8th Regular English
Dramatics (S)
Short Story (S)
Debate (S)
Journalism (S)
Developmental Language Arts I & II
Language Arts I & II
World Literature & Humanities I & II (S)
Developmental Writing Skills (S)
Developmental Introduction to Literature (S)
Introduction to Literature (S)
Writing Skills (S)
Basic Drama Workshop (S)
Creative Writing (S)
Developmental Mass Media (S)
Mass Media (S)
Romantic Themes in Literature (S)
Supernatural Themes in Literature (S)
Contemporary Literature (S)
American Literature (S)
Grammar (S)
Corrective Reading (S)
Enrichment Reading (S)
Journalism (S)
Advanced Composition (S)
American Hunor (S)
Independent Study (S)
Spanish I & II; III & IV; V & VI
German I & II; III & IV; V & VI; VII & VIII

---

12 courses at JH; 25 courses at HS

DIVISION OF MATHEMATICS & SCIENCE (MR. GUETTLER)

7th Basic Mathematics
7th Regular Mathematics
Basic Science
Life Science
8th Basic Mathematics
8th Regular Mathematics
Basic Science
Physical Science
Developmental Consumer Mathematics I & II
Consumer Mathematics I & II
Algebra I & II
Algebra III & IV
Geometry I & II
Trigonometry (S)
Mathematics Analysis (S)
Environmental Science
Biology I & II
Anatomy & Physiology (S)
Invertebrate Zoology (S)
Health Science (S)
Chemistry
Physics
---

8 courses at JH; 14 courses at HS

DIVISION OF SOCIAL STUDIES (MR. PHILLIPS)

7th World Resources (S)
7th Michigan History (S)
7th Domestic Issues (9)
7th World Affairs (9)
8th Government (S)
8th Michigan History (S)
8th Domestic Issues (S)
8th World Affairs (S)
General Social Studies
World History
Developmental U.S. History I & II
Contemporary History, 1945-1973 (S)
Legal Decisions/Civil War (S)
World War I & The Twenties (S)
Colonial History/The Melting Pot (S)
Feminine Eye/Colonial History (S)
Sociology (S)
General Comparative Government (S)
Urban Problems (S)
The 1930s & World War II (S)
Urban Problems/General Government (S)
The American West/Civil War (S)
International Politics (S)
Domestic Issues/Feminist Issues (S)
---
8 courses at JH; 16 courses at HS

DIVISION OF PHYSICAL EDUCATION (MISS SMITH)

7th Boys Physical Education
7th Girls Physical Education
8th Boys Physical Education
8th Girls Physical Education
Boys Physical Education I & II
Girls Physical Education I & II
Boys Physical Education III & IV
Girls Physical Education III & IV
Co-ed Recreation I & II
---

4 courses at JH; 5 courses at HS

DIVISION OF VOCATIONAL ARTS (MR. KUREK)

7th General Shop I (9)
7th Crafts (9)
7th Creative Art (9)
7th Bachelor Survival (9)
7th Foods & Clothing (9)
8th General Shop II (S)
8th Drawing & Planning (S)
8th Foods (S)
8th Clothing (S)
8th Bachelor Survival (S)
8th Advanced Art (S)
Introduction to Industrial Arts I & II
Drafting I & II
Drafting III & IV
Architecture I & II
Metal Mechanics I & II
Metal Mechanics III & IV
Woodworking I & II
Woodworking III & IV
Home Economics I & II
Home & Family Living (S)
Bachelor Arts (S)
Child Development (S)
Housing Interiors (S)
Textiles (S)
Advanced Textiles (S)
Foods & Nutrition (S)
Grooming & Personal Development (S)
Vocational Electronics at Niles
Building Trades
Automobile Mechanics at Brandywine
Nurse Aide at Niles
Vocational Small Engines at Eau Claire
Auto Body & Fender Repair
Vocational Electronics II & III at Niles
---

11 courses at JH; 24 courses at HS

DIVISION OF BUSINESS EDUCATION (MR. JESCHKE)

Typing I & II
Typing III & IV
Personal Typing (S)
Business Law (S)
Business Management (S)
Office Practice I & II
Developmental Record Keeping I & II
Bookkeeping I & II
Bookkeeping III & IV
Shorthand I & II
Stenoscript Notehand (S)
General Business I & II
Coopertive Occupational Education
Work-Study Program
---

14 courses at HS

DIVISION OF FINE ARTS (MR. SILL)

7th Band
7th Music (9)
8th Band
8th Chorus (S)
Band
Choir
Basic Art (S)
Ceramics (S)
Sculpture (S)
Painting (S)
---

4 courses at JH; 6 courses at HS

APPENDIX J

ADULT EDUCATION

BERRIEN SPRINGS PUBLIC SCHOOLS

Adult High School Completion Program

Second Semester - 1975

REGISTRATION: Register the first night of class.

PHONE: 473-1621, 471-7251, or 471-1313 for more information. Ask for Bud Racine, Community School Director.

Classes start the week of February 3, 1975

DAY	CLASS TITLE
Monday	General Science Practical English
Tuesday	Consumer Economics General Mathematics
Wednesday	U.S. History Office Machines
Thursday	Government Typing I
Monday-Wednesday	Adult Basic Education English as a Second Language for the foreign born.

INVESTMENT IN KNOWLEDGE...PAYS THE BEST DIVIDENDS. You can earn a high school diploma. (Free) That's right. We offer any Michigan adult resident the opportunity to finish high school and, in less time than you may think. Many are able to graduate by returning to school for as little as one year (two or three classes.)

IF YOU HAVE NOT FINISHED SCHOOL and are 18 years old, consider taking the G.E.D. (high school equivalency test). IF YOU WOULD LIKE TO ZERO IN ON your occupational interests, take one of our occupational interest surveys.

BERRIEN SPRINGS PUBLIC SCHOOLS

LEISURE TIME CLASSES

FALL 1974

REGISTRATION: By phone: 473-1621, 471-7251, 471-1313, or 471-1422.

Classes with sufficient enrollment will start the week of October 7, 1974.

MONDAY

Beginning Sewing
Glass Blowing
Women in America
Flower Arranging
Square Dancing I
Philosophy
Aviation Ground School

TUESDAY

Beginning Knitting
Tailoring
Conversational German
Bookkeeping and Accounting
Candle Making
Cake Decorating
Leather Craft
Lingerie
Automotive Mechanics I

WEDNESDAY

Slacks and Shirts
Real Estate Institute
Religions of the World
Wood Working
Cosmetic Makeup Techniques
Ball Room Dancing

THURSDAY

Intermediate Sewing
Conversational Spanish
Flower Arranging II
Square Dancing II
Book Club
Oil Painting I
Chess Club

CENTER FOR STUDIES AND SERVICES IN EDUCATION

ANDREWS UNIVERSITY

CSSE

BERRIEN SPRINGS PUBLIC SCHOOLS: ADMINISTRATOR'S NEEDS LIST

		Actual Priority Choices*	No. of Priority Choices	Total Points Actual Choices	Rank Order
A.	Additional Class Space (Mobil, Science, Vocational)	5,4,4,2,2	= 5	17	1
B.	Outdoor Biological/Environmental/Agricultural Studies Center	5,4,4,1,1	= 5	15	2.5
C.	Elementary Recreation Areas (Blacktop, Landscape -Drain, Equipment)	5,4,3,2,1	= 5	15	2.5
D.	Parking and Traffic (Flow Study, Lighting, Space)	5,4,2,1	= 4	12	4
E.	Auditorium	5,3,1	= 3	9	5.5
F.	Recreational Park & Picnic Area	5,3,1	= 3	9	5.5
G.	Improve and Expand Athletic Areas (Sylvester Field, Tennis, Lighting)	5,2,1	= 3	8	7
H.	Pool	3,3	= 2	6	8
I.	Barrier-Free Facilities (Hearing Impaired)	4	= 1	4	9
J.	Wire and F.M. Communication Network	3	= 1	3	10.5
K.	Beautify Buildings	3	= 1	3	10.5
L.	Historical Area for Past School Activities	2	= 1	2	12.5
M.	Student Waiting Area Away From Bus Unloading	2	= 1	2	12.5
N.	Second Gym for High School	1	= 1	1	15.5
O.	Warehouse Facilities	1	= 1	1	15.5
P.	Enlarge Bus Garage	1	= 1	1	15.5
Q.	Expand Library	1	= 1	1	15.5

*Scale from 1-5, 5 = highest priority, 1 = lowest priority.

BERRIEN SPRINGS, MICHIGAN 49104 Telephone: (616) 471-7771

APPENDIX L

BERRIEN SPRINGS PUBLIC SCHOOLS
BERRIEN SPRINGS, MICHIGAN 49103

BUD RACINE
Community School Director
LOLA SMITH
Director, Libraries/Media

LEE F. AUBLE
Superintendent
JON N. SCHUSTER
Assistant Superintendent

January 9, 1974

Dr. R.E. Klimes
Center for Studies and Services in Education
Department of Education
Andrews University
Berrien Springs, Michigan

Dear Rudy:

Attached please find a copy of the correspondence that has been sent (along with a copy of your proposal) to each of the "key" resource professionals within our system. We are now at your disposal regarding "in-put", as you may desire.

Each of the members are classroom teachers, with the exception of those indicated as "administration." It would be preferable to meet after 4 PM, although we are willing to hire substitutes if longer meetings are necessary. (In that case, I would recommend meeting in the mornings). Of course, those administrators indicated are available on very short notice at any time during the day.

I am very pleased that we are working together in this very worthwhile effort.

Cordially,

Jon N. Schuster
Assistant Superintendent

BERRIEN SPRINGS PUBLIC SCHOOLS
BERRIEN SPRINGS, MICHIGAN 49103

BUD RACINE
Community School Director
LOLA SMITH
Director, Libraries/Media

LEE F. AUBLE
Superintendent
JON N. SCHUSTER
Assistant Superintendent

January 8, 1975

SUBJECT: Land-Utilization Options for the Berrien Springs Public Schools

TO: Committee Members

The Board of Education has entered into an agreement with the Center for Studies & Services in Education at Andrews University for the conduct of a formal study relative to the optimum academic, athletic, and recreational uses of our existing outdoor facilities. (See attached proposal). This effort, including a written synopsis with graphs, maps, charts, etc., is to be concluded in sufficient time to permit reporting to the Board on April 10, 1975. (This date has been selected in order that work can be initiated immediately thereafter in implementing the proposals).

It is vitally important that the CSSE officials have expert input from representative members of our staff; who, in turn, solicit comments from their colleagues. Said input is crucial to the "accumulation" phase of the effort. Those who serve should anticipate considerable involvement during the period: January 15 - February 21, 1975.

The following named individuals are appointed to represent the interests of the Berrien Springs Public Schools:

OUTDOOR EDUCATION

Sherrie Moersch (Mars)
Linda Skale (Sylvester)
Scott Pluss (Jr - Sr Highs)

ENVIRONMENTAL SCIENCE

Rick Moersch (High School)
Harold Poling (Jr High)
Bob Saroni (Mars)
Ann Dargus (Sylvester)

PHYSICAL EDUCATION

Shelley Ryan (Elementary)
June Smith (Jr High)
Norman Harris (High School)

INTERSCHOLASTIC SPORTS

Al Gropp (Jr High)
Jim Bermingham (H-I)
Al Bush (High School)
Bruce Taiclet (Central)
Ed Hempel (High School)

SPECIAL PROGRAMS

Kay Walker (Hearing Impaired)

ADMINISTRATION

Roy Rennhack (Jr High); Andrew Gantenbein (Hearing-Impaired); Robin Campbell (Mars); Al Berg (Sylvester); Jerry Craig (High School); Bud Racine (Community Education); Jon Schuster (Central)